JAMAICA. MARCH 7, 1888. No. ~~86~~ 90

WEATHER REPORT

FOR THE MONTH OF

JANUARY, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON
1888.

National Oceanic and Atmospheric Administration

Climate Database Modernization Program

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March 28, 2002

METEOROLOGICAL RESULTS FOR JANUARY, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	30.101	30.037	66.8	83.8	62.0	69.5	0.556	0.721	83	64
King's House ...	400	...	...	...	...	...	...	...	...	...	...
Castleton Gardens ...	580	29.56	29.56	70.9	79.9	68.	71.	0.684	0.759	90	74
Cinchona Plantation ...	4,907 *	25.325	...	56.7	...	48.4	...	0.335	...	73	...

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	88.3	64.2	24.1	Var.	...	91.0	14th	59.6	5th	31.4	0·09
King's House ...	...	...	...	...	...	...	...	...	...	...	...
Castleton Gardens ...	83.3	60.6	22.7	...	...	85.	25th	58.	19th †	27.	3.44
Cinchona Plantation ...	67.7	54.3	13.4	E.	...	71.	15th	47.	22nd & 23rd	24.	1.46

Note—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea level. The Thermometers are similarly exposed at all the above stations; their readings have all been corrected.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past :—

	January.	
	1888.	Average.
Infantile diseases not otherwise specified ...	20	25
Lung diseases ...	12	19
Fever ...	10	5
Dysentery and Diarrhœa	11	7
Various ...	41	51
Total	94	107

Rainfall for January, 1888.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report, the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of reports, and to an unpublished supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these rainfall returns :—

North-Eastern Division.		January.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	1.82	5.28
Quaw Hill		1.24	...
Hordley		2.08	5.94
Elmwood (Long Bay)	Portland	2.62	...
Boston	...	2.82	...
Port Antonio	...	3.14	...
Cinchona Plantation,	St. Andrew	1.46	10.60
New Haven Gap	...	5.35	...
Newton	...	1.32	...
Stony Hill Reformatory	...	0.28	4.82
Castleton Gardens	St. Mary	3.44	9.71
Dover	...	5.40	...
Quebec	...	...	...
Port Maria	...	2.65	...
New Ramble	...	...	...
Gayle	...	3.05	9.50
Rio Hoe	St. Ann	1.10	7.42
Unity Valley	...	1.47	7.63
Albion	...	1.50	6.15
Averham Park	...	1.91	...
Bradfield	...	...	8.24
Drax Hall	...	...	7.30
Seville	...	...	7.16
Llandovery	...	...	5.68
Richmond Estate	...	...	5.72
	Means	1.80	7.45

Northern Division.		January.	
		1888	Average.
		In.	In.
Lillyfield	St. Ann	7.09	10.00
Home Castle	...	...	...
Richmond Pen	...	...	...

* For 20 readings.

† And 26th, 26th and 27th.

Northern Division, *contd.*		January, 1888.	Average.
		In.	In.
Colchis Pen	Trelawny	...	...
Mahogany Hall	...	...	...
Braco	...	...	5.01
Arcadia	...	...	...
Harmony Hall	...	...	4.32
Lancaster	...	...	5.12
Vale Royal	...	..	5.39
Hyde	...	...	6.05
Georgia	...	...	5.02
Steelfield	...	...	5.03
Oxford	...	...	...
Cambridge	...	...	5.23
Dry Valley*	...	1.48	...
Lottery	...	...	4.18
Falmouth	...	0.94	...
Holland Pen	...	...	...
Golden Grove	...	0.20	4.43
Pembroke	...	...	3.82
Green Park	...	...	...
Phœnix	...	0.52	...
Tilston	...	0.49	5.52
Orange Valley	...	1.09	4 79
Kent	...	0.88	4.98
Dundee	...	0.58	5.31
Weston Favel	...	0.35	...
Gale's Valley	...	0.50	4.47
Greenwood	St. James	0.13	...
Guilsbro'	...	0.30	...
Spring Vale	...	...	...
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	3 78
Leogan	...	1.15	...
Ironshore	...	0.88	2.76
Providence	...	...	...
Montego Bay (Market)	...	1.50	...
Catherine Hall	...	0.93	4.43
Catherine Mount	...	0.74	4.36
Fairfield	...	0.29	...
	Means	1.33	5.10

West Central Division.		January, 1888.	Average.
		In.	In
Linstead	St. Catherine	0.36	2.14
Cave Valley	St. Ann	...	2.95
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	1.22	2.08
Windsor Pen	Trelawny	0.14	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	...	...
Mount Edgecombe	Westmoreland	0.32	2.45
Windsor Forest	...	...	...
Woodstock	...	0.00	...
Strnie	...	0.00	...
Kew Park	...	...	...
Hermitage	...	..	...
Chester Castle	Hanover	0.02	...
Copse	...	0.00	3.99
Haughton Grove	...	...	...
Kempshot	St James	...	...
Anchovy	...	0.00	2.90
Wiltshire	...	0.00	3.75
Eden	...	0.00	...
Round Hill	Hanover	0.70	2.31
Cacoon Castle	...	0.00	4.87
Golden Grove	...	...	3.57
Great Valley Pen	...	...	...
Tryall	...	0.30	2.13
Sweet River	Westmoreland	0.09	...
Mackfield	...	0.00	...
Windsor (Sav.-la-Mar)	...	0.00	1.89
Fontabelle	...	0.00	...
Belle Isle	...	0.00	...
King's Valley	...	...	...
Haughton Court	Hanover	...	...
Orange Cove	...	...	3.96
Abingdon	...	...	...
	Means	0.29	2.85

Southern Division.		January, 1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	0 08	...
The Abbey	...	0.15	...
Halberstadt	St. Andrew	...	...
Hope Plantation	...	0.33	...
Cherry Garden	...	...	...
King's House	...	...	1 72
Monaltrie	...	0.47	1.56
Public Works Office	Kingston	0.14	1.78
Franklyn Town	...	...	...
Elletson Road	...	0.09	...
Plumb Point L. H.	...	0.07	1.16
Spanish Town	St. Catherine	0.67	1.77
Windsor Park	...	...	...
Hog Hole Pen	...	1.29	2.02
Headworks, R. C. C.	...	0.48	2.80
Old Harbour	...	1.81	...
Springfield	Clarendon	0.81	...
Farm Plantation	Manchester	0.90	2.65
Stone's Hope	...	0.75	...
Brokenhurst Plant.	...	1.40	...
Pepper	St. Elizabeth	1.10	1.47
Long Hill	...	0.53	2.00
Potsdam	...	1.64	...
Gilnock Hall	...	1.53	...
Santa Cruz (Poor House)	...	4.14	...
Black River	...	0.90	1.76
Bloomsbury	...	...	...
	Means	0.64	1.88

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.06 and 0.07 inches respectively.

Comparative Table.

(Based upon the "Average" Stations only.)

	January, 1888.	Average.
	In.	In.
North Eastern Division	1.80	7.45
Northern "	1.33	5.10
West Central "	0.29	2.85
Southern "	0.64	1.88
The Island	1.02	4.32

The largest fall, namely, 7 inches was recorded at Lillyfield in St. Ann and no rain fell at the following stations in the West Central Division :—

Woodstock, Strine, Mackfield, Windsor (Sav.-la-Mar) Fontabelle and Belle Isle in Westmoreland, Copse and Cacoon Castle in Hanover and Anchovy, Wiltshire and Eden in St. James.

A shock of Earthquake was felt pretty generally over the Island on the morning of the 3rd February. It does not however seem to have been felt in Kingston, at least no reports to this effect have reached me, and I did not feel it myself. The following notes of it have come to hand.

Cassia Park, St. Andrew.—Light shock felt at 4.40 a.m.—(*Hon. T. Capper.*)

Potsdam, St. Elizabeth.—A sharp shock of Earthquake felt at 4.43 a.m.—(*W. D. Pearman.*)

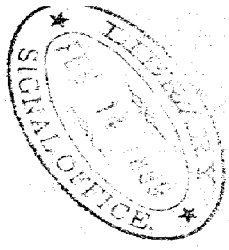
Mount Edgecombe, Westmoreland.—There was a shock of Earthquake here this morning (3rd) about 10 minutes to 5 o'clock—motion from East to West, not very severe—it seemed to be one shock only.—(*Chas. B. Vickers.*)

Windsor Pen, Trelawny.—Shock of Earthquake at 5 a.m. on 3rd February.

Unity Valley, St. Ann.—Sharp shock of Earthquake at 4.50 a.m. this morning (3rd) more of an upheaval than oscillating.—(*F. Roper.*)

ROBT. JOHNSTONE.

Kingston, 27th February, 1888.



JAMAICA. MARCH 24, 1888. No. 9.

WEATHER REPORT

FOR THE MONTH OF

FEBRUARY, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON
1888.

METEOROLOGICAL RESULTS FOR FEBRUARY, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	30.070	30.008	69.1	82.9	62.8	69.5	0.572	0.721	81	65
King's House ...	400	...	...	...	...	...	...	...	...	...	...
Castleton Gardens ...	580	29.55	29.55	64.5	80.6	61.6	69.4	0.551	0.708	96	68
Cinchona Plantation ...	4,907	25.282	...	55.1	...	49.2	...	0.348	...	80	...

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	86.1	64.6	21.5	S.E.	55.7	88.0	27	60.6	25	27.4	0.69
King's House ...	...	...	...	...	...	...	...	...	...	...	...
Castleton Gardens ...	83.2	61.0	22.2	...	...	85.	25 & 26	55.	21	30.	8.60
Cinchona Plantation ...	65.9	53.1	12.8	E.byS.	...	69.5	2	46.	25	23.5	3.28

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at all the above stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past :—

	February.	
	1888.	Average.
Infantile diseases not otherwise specified ...	23	27
Lung diseases ...	15	14
Fever ...	4	7
Dysentery and Diarrhœa	9	8
Various ...	39	52
Total	90	108

RAINFALL FOR FEBRUARY, 1888.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report, the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of reports, and to an unpublished supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are *more clearly* shown in the Comparative Table at the end of these rainfall returns :—

North-Eastern Division.		February.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	1.02	2.98
Quaw Hill		2 09	...
Hordley		2.81	4.40
Elmwood (Long Bay)	Portland	3.33	...
Boston	...	6.11	...
Port Antonio	...	3.93	..
Cinchona Plantation,	St. Andrew	3 2s	2.56
New Haven Gap	...	...	...
Newton	...	1.18	...
Stony Hill Reformatory	...	1 94	2.65
Castleton Gardens	St. Mary	8.60	2.09
Dover	...	2.15	...
Quebec	...	...	...
Port Maria	...	1.66	...
New Ramble	...	3 21	4.25
Gayle	...	2.43	6.31

North-Eastern Division, *contd.*		February.	
		1888	Average.
		In.	In.
Rio Hoe	St. Ann	4.00	3.69
Unity Valley	...	2.47	2.34
Albion	...	2.97	3.30
Averham Park	...	3.94	...
Bradfield	...	...	...
Drax Hall	...	1.41	4.52
Seville	...	...	4.16
Llandovery	...	...	3.32
Richmond Estate	...	...	3.65
	Means	3.10	3.55

Northern Division.		February.	
		1888.	Average.
		In.	In
Lillyfield	St. Ann	5.16	6.74
Home Castle	...	2.38	...
Richmond Pen	...	1.55	...
Colchis Pen	Trelawny	1.07	...
Mahogany Hall	...	...	1.74
Braco	...	2.00	2.21
Arcadia	...	0.50	...
Harmony Hall	...	...	...
Lancaster	...	1.75	2.32
Vale Royal	...	2.28	2.73
Hyde	...	2.06	2.28
Georgia	...	2.52	2.53
Steelfield	...	1.55	1.77
Oxford	...	1.50	...
Cambridge	...	1.42	2.69
Dry Valley	...	1.54	..
Lottery	...	1.59	2.02
Falmouth	...	1.20	...
Holland Pen	...	1.03	...
Golden Grove	...	1.75	3.07
Pembroke	...	1.20	1.42
Green Park	...	...	1.58
Phœnix	...	1.65	...
Tilston	...	1.47	1.40
Orange Valley	...	...	2.57
Kent	...	1.02	2.68
Dundee	...	1.15	2.57
Weston Favel	...	1.89	...
Gale's Valley	...	0.99	1.97
Greenwood	St. James	1.03	...
Guilsbro'	...	1.50	...
Spring Vale	...	...	2.04
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	..
Leogan	...	1.40	...
Ironshore	...	1.11	2.86
Providence	...	...	...
Montego Bay (Market)	...	2.60	...
Catherine Hall	...	2.28	1.92
Catherine Mount	...	1.81	1.63
Fairfield	...	1.61	...
	Means	1.84	2.49

West Central Division.		February.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	2.40	2.54
Cave Valley	St. Ann	1.31	2.66
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	...	4.12
Windsor Pen	Trelawny	1.99	...
Maroon Town	St. James	...	...

West Central Division, *contd.*		February.	
		1888.	Average.
		In.	In.
Kepp	St. Elizabeth	1.10	6.56
Mount Edgecombe	Westmoreland	1.43	3.05
Windsor Forest	...	...	...
Woodstock	...	1.35	...
Struie	...	0.00	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	3.13	...
Copse	...	...	1.83
Haughton Grove	...	...	...
Kempshot	St James	...	...
Anchovy	...	1.71	1.11
Wiltshire	...	1.18	2.69
Eden	...	1.73	...
Round Hill	Hanover	0.30	1.25
Cacoon Castle	...	...	1.64
Golden Grove	...	2.43	...
Great Valley Pen	...	4.75	...
Fryall	...	1.18	1.23
Sweet River	Westmoreland	1.15	...
Mackfield	...	2.66	...
Windsor (Sav.-la-Mar)	...	2.50	2.59
Fontabelle	...	1.75	...
Belle Isle	...	1.30	...
King's Valley	...	...	...
Haughton Court	Hanover	...	...
Orange Cove	...	0.53	2.49
Abingdon	...	3.44	...
	Means	1.36	2.61

Southern Division.		February.	
		1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	0.69	...
The Abbey	...	1.35	...
Halberstadt	St. Andrew	...	...
Middleton	...	1.01	...
Woodford	...	0.97	...
Hope Plantation	...	1.11	...
Cherry Garden	...	...	...
King's House	...	...	...
Monaltrie	...	0.72	1.21
Public Works Office	Kingston	0.71	1.02
Franklyn Town	...	0.83	...
Elletson Road	...	0.69	...
Plumb Point L. H.	...	0.37	1.04
Spanish Town	St. Catherine	1.31	2.07
Windsor Park	...	0.94	...
Hog Hole Pen	...	1.55	2.33
Headworks, R. C. C.	...	1.33	2.11
Old Harbour	...	2.60	...
Springfield	Clarendon	2.61*	...
Farm Plantation	Manchester	2.80	2.61
Stone's Hope	...	3.22	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	1.25	1.58
Long Hill	...	1.24	1.46
Potsdam	...	1.66	...
Gilnock Hall	...	0.01	...
Santa Cruz (Poor House)	...	...	...
Black River	...	1.30	1.85
Bloomsbury	...	...	...
	Means	1.26	1.73

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 0.33 and 0.37 inches respectively.

*Being the fall on one day.

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

	FEBRUARY.	
	1888.	Average.
	In.	In.
North Eastern Division	3.10	3.55
Northern "	1.84	2.49
West Central "	1.36	2.61
Southern "	1.26	1.73
The Island	1.89	2.60

The greatest fall was 8.60 inches at Castleton Gardens in St. Mary and no rain fell at Struie in Westmoreland. This makes the third consecutive month in which no rain has fallen at Struie.

The rainfall in the North Eastern and Southern Divisions was nearly the average, but in the Northern and West Central Divisions—more particularly the latter—the fall was deficient

A severe Norther commenced on the Northside on the 28th February and lasted some days. Little rain fell on the sea-board, but the rain was very heavy inland on the hills and brought 'down' all the rivers in the North Eastern part of the Island. Very considerable damage was done to the Junction Road near Annotto Bay by the Wag Water overflowing its banks and entirely carrying away a large portion of the road. Over seven inches of rain fell on the 28th and 29th at Castleton, which is on the banks of the Wag Water about eight miles in a direct line from the Coast.

At 9.16 p.m. on the 26th February there was felt a shock of earthquake at Kingston, which was also felt over the whole Island. In Kingston it was preceded by a sound like that of an explosion, immediately followed by a sharp shock lasting about seven seconds, after which there was an interval of about five seconds, and then came another lighter shock lasting about five seconds. The sudden, distinct, explosive sort of sound before the earthquake was very marked and unusual in character. The day was fine with brisk sea breeze lasting till about 7 p.m.; the night was fine but warm, with a perfectly clear sky; the morning, however, was cool.

The following notes from other parts of the Island have reached me :—

Morant Point Light House, (St. Thomas.)—On the 26th February a light shock of earthquake was felt which lasted 30 seconds.—(*R. Edgehill.*)

Boston, (Portland.)—At 9.16 p.m. on the 26th—Earthquake—two severe shocks.—(*F. A. Jenoure*)

The Abbey, (St. Thomas.)—A heavy double shock of earthquake at 9.15 p.m. on the 26th. Sky clear.—(*T. Manners.*)

Cinchona Plantation, (St. Andrew).—Two sharp shocks of earthquake in rapid succession were felt at Cinchona last night (26th Feb.) at 9.13 p.m. I was walking in the garden at the time and was between the houses on my right, and the Stevenson's Thermometer Screen on my left It appeared to me that the movement was from North to South or perhaps from N. E. to S. W., judging from the impression I had at the time of the succession of sounds produced by the shaking of the various buildings and the screen. There was a loud rumbling noise which, I think, was distinct from the noise of the buildings. The earthquake lasted very few seconds.—(*W. Fawcett.*)

Cottage Grove, Kingston.)—There was a sharp shock on the evening of Sunday the 26th. There was a first shock followed immediately by a heavy vibration lasting about ten seconds.—S. W. to N. E.—(*W. A. Feurtado.*)

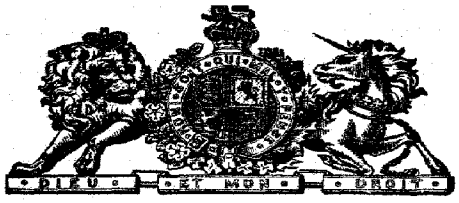
Potsdam, (St. Elizabeth.)—Slight shock of earthquake felt at 9.13 p.m. on 26th instant.—(*W. D. Pearman.*)

Windsor Pen, (Trelawny.)—Shock of earthquake on 26th of few seconds duration.—(*W. D. H.*)

Chester Castle. (Hanover.)—Light shock of earthquake at 9.10 p.m. on the 26th instant.—(*A. E. Cooke.*)

ROBT. JOHNSTONE.

Kingston, 19th March, 1888.



JAMAICA. APRIL 30, 1888. No. 9[illegible]2

WEATHER REPORT

FOR THE MONTH OF

MARCH, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON
1888.

METEOROLOGICAL RESULTS FOR MARCH, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	30.068	30.000	72.7	83.6	64.0	70.8	0.596	0.754	75	66
King's House ...	400	29.80	29.77	70.7	83.4	62.7	75.2	0.570	0.874	76	75
Castleton Gardens ...	580	29.53	29.54	68.2	77.6	62.9	70.7	0.574	0.751	84	78
Cinchona Plantation ...	4,907	25.282	25.274	56.5	62.8	51.3	58.6	0.378	0.492	82	86

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	86.7	66.5	20.2	S.E.	65.2	89.8	10	61.1	6	28.7	0.28
King's House ...	84.8	64.8	20.0	...	...	89.	4*	60.	19	29.	0.47
Castleton Gardens ...	82.4	63.2	19.2	...	...	90.	29	56.	15	34.	6.13
Cinchona Plantation ...	67.3	54.5	12.8	...	...	72.5	9	47.5	5	25.	3.85

Note—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at all the above stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	March.	
	1888.	Average.
Infantile diseases not otherwise specified ...	32	37
Lung diseases ...	20	15
Fever ...	6	5
Dysentery and Diarrhœa	13	12
Various ...	46	74
Total	117	143

Rainfall for March, 1888.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Cmparative Table at the end of these rainfall returns:—

North-Eastern Division.		March.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	2.08	2.14
Quaw Hill		2.72	...
Hordley		3.60	3.78
Elmwood (Long Bay)	Portland	7.85	...
Boston	...	7.63	...
Port Antonio	...	3.91	...
Cinchona Plantation,	St. Andrew	3.85	8.83
New Haven Gap	...	23.85†	...
Newton	...	0.60	...
Stony Hill Reformatory	...	0.94	4.14
Castleton Gardens	St. Mary	6.53	4.73
Dover	...	4.90	...
Quebec	...	...	...
Port Maria	...	2.13	...
New Rumble	...	2.54	6.55
Gayle	...	5.33	5.37
Rio Hoe	St. Ann	3.67	5.46
Unity Valley	...	3.86	4.97
Albion	...	5.09	4.18

* and on 11th, 19th and 20th.

† From the 14th Feby. to 31st March.

North-Eastern Division, *contd.*		March. 1888	Average.
		In.	In.
Averham Park	...	3.61	...
Bradfield	...	...	5.58
Drax Hall	...	1.55	4.04
Seville	...	2 19	4.82
Llandovery	...	2.00	2.05
Richmond Estate	...	1.90	2.58
	Means	3.22	4.55

Northern Division.		March. 1888.	Average.
		In.	In
Lillyfield	St. Ann	4.66	7.91
Home Castle	...	4.91	...
Richmond Pen	...	1.65	...
Colchis Pen	Trelawny	0 46	...
Mahogany *Hall*	...	2.30	1.68
Braco	...	1 73	2.10
Arcadia	...	2.33	..
Harmony Hall	...	...	1.96
Lancaster	...	1.57	2.56
Vale Royal	...	2.97	2.66
Hyde	...	2.34	4.17
Georgia	...	1.80	2.42
Steelfield	...	2.40	2.52
Oxford	...	1.80	...
Cambridge	...	1.89	2 57
Dry Valley	...	1.43	...
Lottery	...	1.43	2.30
Falmouth	...	...	...
Holland Pen	...	0.51	...
Golden Grove	...	0 60	5.43
Pembroke	...	1.00	...
Green Park	...	...	...
Phœnix	...	0.70	...
Tilston	...	0.50	4.59
Orange Valley	...	0.42	2.28
Kent	...	0.90	1.93
Dundee	...	0.72	3.22
Weston Favel	...	0.93	...
Gale's Valley	...	0.52	2.35
Greenwood	St. James	0.25	...
Guilsbro'	...	1.00	...
Spring Vale	...	...	...
Cinnamon *Hall*	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	..
Leogan	...	0.68	...
Ironshore	...	0 19	...
Providence	...	...	1.39
Montego Bay (Market)	...	0.50	...
Catherine Hall	...	0.13	2.03
Catherine Mount	...	0.50	1.77
Fairfield	...	0.13	...
	Means	1.52	3.03

West Central Division.		March. 1888.	Average.
		In.	In.
Linstead	St. Catherine	2.32	1.87
Cave Valley	St. Ann	1.25	4.51
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	0.71	5.10
Windsor Pen	Trelawny	0.83	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	2.03	3.34
Mount Edgecombe	Westmoreland	1.02	2.70
Windsor Forest	...	0.59	...

West Central Division, *contd.*		March. 1888.	Average
		In.	In.
Woodstock	...	0.12	...
Struie	...	0.00	...
Kew Park	...	...	...
Hermitage	...	..	...
Chester Castle	Hanover	0 96	...
Copse	...	0.15	2.74
Haughton Grove	...	...	...
Kempshot	St James	...	..
Anchovy	...	0.44	2.14
Wiltshire	...	0.42	3.26
Eden	...	0.58	...
Round Hill	Hanover	0.10	2.38
Cocoon Castle	...	...	2.76
Golden Grove	...	0.66	3.42
Great Valley Pen	...	...	...
Tryall	...	0.00	0.99
Sweet River	Westmoreland	...	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	0.81	2.89
Fontabelle	...	0.51	...
Belle Isle	...	0.20	...
King's Valley	...	...	...
Haughton Court	Hanover	...	...
Orange Cove	...	0.74	2.64
Abingdon	...	...	...
	Means	0.82	2.92

Southern Division.		March. 1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	0 60	...
The Abbey	...	0.50	...
Halberstadt	St. Andrew	0.30	...
Middleton	...	1.78	...
Woodford	...	1.39	...
Hope Plantation	...	1.09	...
Cherry Garden	...	...	...
King's House	...	0.47	1.61
Monaltrie	...	0.81	1.60
Public Works Office	Kingston	0.24	1.47
Franklyn Town	...	0.24	...
Elletson Road	...	0.28	...
Plumb Point L. H.	...	0.00	0.94
Spanish Town	St. Catherine	1.12	3.15
Windsor Park	...	...	...
Hog Hole Pen	...	1.44	3.35
Headworks, R. C. C.	...	3.27	4.37
Old Harbour	...	2.78	...
Springfield	Clarendon	1.31	...
Farm Plantation	Manchester	2.26	3.15
Stone's Hope	...	1.25	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	...	4.41
Long Hill	...	2.86	2.66
Potsdam	...	2.11	...
Gilnock Hall	...	2.24	...
Santa Cruz (Poor House)	...	...	...
Black River	...	1.29	3.44
Bloomsbury	...	...	...
	Means	1.38	2.47

At the Plumb Point Light House the upper gauge is 68 feet above the lower; neither of these gauges registered any rainfall.

COMPARATIVE TABLE.

(Based upon the "Average" Stations only.)

	MARCH.	
	1888.	Average.
	In.	In.
North Eastern Division	3.22	4.55
Northern "	1.52	3.03
West Central "	0.83	2.92
Southern "	1.38	2.47
The Island	1.74	3.24

The greatest fall was 7.85 inches at Elmwood in Portland, and no rain fell at Montego Bay in the Northern Division, Struie and Tryall in the West Central Division and the Plumb Point Light House in the Southern Division.

The drought has continued in most parts of the Island, on y half the average amount of rain having fallen in March. The West Central Division has suffered the most, and of the Parishes in this Division, Westmoreland has been the worst off. At Struie in that Parish no rain whatever has fallen during the four months ending March 1888, and as already stated in the January Report there were eleven stations in the West Central Division in that month at which no rain fell.

The following Comparative Table, based upon the "Average Stations" only will show the deficiency of rain since the beginning of December last.

DECEMBER TO MARCH, (both inclusive.)

	Dec. '87 to March '88.	Average.
	In.	In.
North Eastern Division	9.20	24 80
Northern "	5.22.	16.55
West Central "	2.73	11.12
Southern "	3.84	8 10
The Island.	5.20	15.17

It will thus be seen that during the last four months the Island generally has received only one third of its average fall of rain and that the West Central Division received only a quarter of its average.

A light shock of earthquake is reported to have been felt in Kingston by some persons at 4 a m., on the 18th March.

ROBT. JOHNSTONE.

Kingston,
21th April, 1888.

JAMAICA. MAY 31. 1888. No. 9X3

WEATHER REPORT

FOR THE MONTH OF

APRIL, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR APRIL, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ..	60	30.051	29.989	77.4	85.2	65.9	71.3	0.637	0.766	68	64
King's House ...	400	29.78	29.75	73.2	83.8	65.7	75.2	0.633	0.868	78	76
Castleton Gardens ...	580	29.53	29.53	68.5	77.2	63.0	71.1	0.576	0.759	83	71
Cinchona Plantation ...	4,907	25.291	25.278	58.7	62.8	53.2	59.7	0.403	0.513	81	90

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	88.4	68.4	20.0	S.E.	1.9	93.0	5	62.6	7§	30.4	0.86
King's House ...	81.9	65.4	16.5	...	...	88.	13	61.	12	27.	3.26
Castleton Gardens ...	85.6	64.9	20.7	...	...	90.	18*	59.	8†	31.	16.60
Cinchona Plantation ...	67.5	55.3	12.2	...	...	72.0	4	62.0	6‡	10.0	17.76

* And on 23rd and 25th. † And 9th. ‡ And 24th. § And 8th.

Note—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the sea-level. The Thermometers are similarly exposed at all the above stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35 00	Light mist. Fine and clear to South.	B. S. G.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past :—

	April.	
	1888.	Average.
Infantile diseases not otherwise specified ...	39	29
Lung diseases ...	14	15
Fever ...	11	3
Dysentery and Diarrhœa	21	9
Various ...	47	62
Total	132	108

Rainfall for April, 1888.

The first columns contain all the Rainfall returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 32 of the present series of reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Cmparative Table at the end of these rainfall returns :—

North-Eastern Division.		April.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	0.76	3.90
Quaw Hill		1.57	...
Hordley		0.48	3.38
Elmwood (Long Bay)	Portland	1.91	...
Boston	...	...	...
Port Antonio	...	2.65	...

North-Eastern Division, *contd.*		April.	
		1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	17.76	9.34
New Haven Gap	...	22 50	..
Newton	...	6.25	...
Stony Hill Reformatory	...	6 65	5.76
Castleton Gardens	St. Mary	16.60	6.14
Dover	...	2.30	...
Quebec	...	1.56	...
Port Maria	...	1.16	...
New Ramble	...	...	3.04
Gayle	...	10.80	2 87
Rio Hoe	St. Ann	8.89	3.82
Unity Valley	...	11.36	5.22
Albion	...	10.77	4.19
Averham Park	...	8.51	...
Bradfield	...	...	4.11
Drax Hall	...	2.17	2.43
Seville	...	1.60	...
Llandovery	...	1.75	...
Richmond Estate	...	1.80	...
	Means	8.62	4.70

Northern Division.		April.	
		1888.	Average.
		In.	In
Lillyfield	St. Ann	9.10	4.35
Home Castle	...	2.96	...
Richmond Pen	...	5.21	...
Colchis Pen	Trelawny	4 30	...
Mahogany Hall	...	2.44	2 43
Braco	...	0 17	2.38
Arcadia	...	0.31	...
Harmony Hall	...	...	...
Lancaster	...	0.10	2.14
Vale Royal	...	0.50	2.80
Hyde	...	1.28	2.73
Georgia	...	0.00	2.19
Steelfield	...	0.10	2.35
Oxford	...	0.00	...
Cambridge	...	0.21	2.11
Dry Valley	...	0.40	..
Lottery	...	0.11	2.06
Falmouth	...	0.58	1.68
Holland Pen	...	0.19	...
Golden Grove	...	0.15	2.13
Pembroke	...	...	2.77
Green Park	...	...	...
Phœnix	...	...	...
Tilston	...	0.00	2.39
Orange Valley	...	0.00	2.20
Kent	...	0.45	2.05
Dundee	...	0.36	2.50
Weston Favel	...	0.30	...
Gale's Valley	...	0.04	2.06
Greenwood	St. James	0.70	...
Guilsbro'	...	0.77	...
Spring Vale	...	...	...
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	..
Leogan	...	0.30	...
Ironshore	...	0 82	2.02
Providence	...	...	...
Montego Bay (Market)	...	0.65	...
Catherine Hall	...	0.40	2.04
Catherine Mount	...	0.53	2.99
Fairfield	...	0.11	...
	Means	0.87	2.35

West Central Division.		April.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	10.58	3.67
Cave Valley	St. Ann	14.35	4.55
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	..	6.39	9.93
Windsor Pen	Trelawny	3.20	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	4.84	9.65
Mount Edgecombe	Westmoreland	0.55	5.08
Windsor Forest	...	8.12	...
Woodstock	...	7.10	...
Struie	...	9.10	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	5.48	...
Copse	...	5 52	7.13
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	1.48	3.03
Wiltshire	...	2.30	3.66
Eden	...	2.10	...
Round Hill	Hanover	0.50	1.58
Cacoon Castle	...	3.73	...
Golden Grove	...	5.90	7.93
Great Valley Pen	...	5.20	...
Tryall	...	1.27	2.20
Sweet River	Westmoreland	...	...
Mackfield	...	4.52	...
Windsor (Sav.-la-Mar)	...	0.59	5.11
Fontabelle	...	2.54	...
Belle Isle	...	5.50	...
King's Valley	...	4.98	...
Haughton Court	Hanover	...	...
Orange Cove	...	0.86	3.31
Abingdon	...	1.19	...
	Means	4.20	5.14

Southern Division.		April.	
		1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.20	...
The Abbey	...	3.80	...
Halberstadt	St. Andrew	3.95	...
Middleton	...	8.11	...
Woodford	...	4.68	...
Hope Plantation	...	3.50	...
Cherry Garden	...	...	...
Constant Spring	...	4.66	...
King's House	...	3.26	3.05
Monaltrie	...	1.30	1.48
Public Works Office	Kingston	0.92	1.19
Franklyn Town	...	1.22	...
Elletson Road	...	0.86	...
Plumb Point L. H.	...	2.13	1.13
Spanish Town	St. Catherine	1.97	1.90
Windsor Park	...	1.19	...
Hog Hole Pen	...	2.31	2.14
Headworks, R. C. C.	...	2.76	2.00
Old Harbour	...	0.95	...
Springfield	Clarendon	2.99	...
Farm Plantation	Manchester	6.85	2.82
Stone's Hope	...	5.63	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	...	6.45
Long Hill	...	...	8.93
Potsdam	...	3.51	...

Southern Division, *contd.*		April.	
		1888.	Average
		In.	In.
Gilnock Hall	St. Elizabeth	10.20	...
Santa Cruz (Poor House)	...	...	...
Black River	...	3.20	3.10
Bloomsbury	...	...	...
	Means	2.74	2.09

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered 1.98 and 2.13 inches respectively.

Comparative Table.

(Based upon the "Average" Stations only.)

	April.	
	1888.	Average.
	In.	In.
North Eastern Division	8.62	4.70
Northern "	0.87	2.35
West Central "	4.20	5.14
Southern "	2.74	2.09
The Island	4.11	3.76

The greatest fall was 22.50 inches at Newhaven Gap and no rain fell at Georgia, Oxford, Tilston and Orange Valley in Trelawny.

A shock of earthquake was felt in the Western part of the Island about 1 p.m. on the 14th April, of which the following accounts have come to hand.

Mount Edgecomb.—(Mr. C. B. Vickers.) There was a very violent shock of Earthquake here to-day at 1.15 p m. by my watch, which is perhaps a little fast. I was standing near a pond in one of my pastures when I felt a slight trembling, when, after a few seconds, there came a most violent shock—motion from east to west—and it seemed to me as if the ground under my feet was going round like with a whirlwind in the air. Apart from the trembling above referred to, it appeared to me only one great shock. The total duration from the beginning of the trembling to the end of the violent shock I should guess at 10 to 15 seconds.

Potsdam—(Revd. W D. Pearman.) A slight shock of Earthquake felt here on the 14th at 1.5 p m. It would seem to have been more severe in Pedro Plains.

Windsor Pen, Trelawny—(W. D. H.) Double shock of Earthquake at 1.15 p.m. on the 14th.

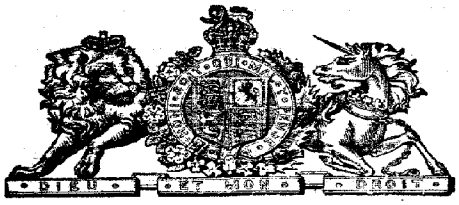
Fontabelle Estate, Westmoreland—A very sharp shock of Earthquake here at 12.57 this afternoon, apparently from South to North.

Chester Castle, Hanover—(A. E. Cooke) Sharp shock of Earthquake on the 14th April at about 1 p.m.—movement apparently from N.E. to S.W. This shock was preceded by a rumbling sound.

Another shock of Earthquake was felt on the 16th April in St. Elizabeth and Trelawny, reported to have been "a slight shock at 1.44 a m accompanied by a pro-"longed and loud rumbling noise," at Potsdam and "a slight shock lasting about seven seconds at 2 a.m." at Windsor Pen.

Robt. Johnstone.

Kingston,
26th May, 1888.



JAMAICA. JUNE 30, 1888. No. ~~88.~~ 94

WEATHER REPORT

FOR THE MONTH OF

MAY, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR MAY, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	29.973	29.928	76.7	82.6	69.7	74.0	0.7 6	0.840	80	76
King's House ...	400	29.71	29.70	74.3	81.3	69.8	77.0	0.727	0.917	86	87
Castleton Gardens ...	580	29.51	29.54	71.7	78.0	69.4	73.1	0.720	0.812	92	85
Cinchona Plantation ...	4,907	25.242	25.234	61.2	63.8	56.9	62.2	0.465	0.556	87	94

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	86.1	71.8	14.3	S.E.	72.0	92.2	6	68.7	21	23.5	32.13
King's House ...	82.8	67.1	15.7	...	...	87.	24	63.	3‡	24.	29.14
Castleton Gardens ...	84.7	69.9	14.8	...	...	90.	4*	60.	21	30.	37.00
Cinchona Plantation ...	67.4	57.9	9.5	E.S.E.	65.6	70.	3†	53.	2	17.	29.52

* And 8th. † And on 18th and 24th. ‡ And on 9th, 12th, 27th and 28th.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35.00	Light mist. Fine and clear to South.	B. S. G.

* On the grass.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past :—

	May.	
	1888.	Average.
Infantile diseases not otherwise specified ...	25	24
Lung diseases ...	13	14
Fever ...	9	4
Dysentery and Diarrhœa	17	5
Various ...	58	58
Total	122	105

RAINFALL FOR MAY, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns :—

North-Eastern Division.		May.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	38.76	9.26
Quaw Hill	...	60.00*	...
Hordley	...	60.03*	11.85
Elmwood (Long Bay)	Portland	61.85*	...
Boston	...	95.10*	...
Port Antonio	...	70.66†*	...

* About 60.00—Gauge overflowed on two days and rainfall of Hordley taken on those occasions. † Gauge overflowed on 9th.

North-Eastern Division, *contd.*		May. 1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	29.52	9.72
New Haven Gap	...	20.25	..
Newton	...	19.87	...
Stony Hill Reformatory	...	25.68	9.39
Castleton Gardens	St Mary	37.00	12.28
Dover	...	28.20	...
Quebec	...	20 29	...
Port Maria	...	17.07	...
New Ramble	...	17.28	8.81
Gayle	...	20.00	8 78
Goshen	...	28.00	...
Rio Hoe	St. Ann	22.84	11.56
Unity Valley	...	28.61	11.15
Albion	...	22.02	8.62
Averham Park	...	15.52	...
Bradfield	...	16.15	9.50
Drax Hall	...	21.84	7.74
Seville	...	22.70	6.80
Llandovery	...	20.98	6.17
Richmond Estate	...	25.30	...
	Means	27.39	9.37

Northern Division.		May. 1888.	Average.
		In.	In
Lillyfield	St. Ann	23.56	7.91
Home Castle	...	13.22	...
Richmond Pen	...	14.10	...
Colchis Pen	Trelawny	10.73	...
Mahogany Hall	...	14.52	8 50
Braco	...	8 67	6.74
Arcadia	...	11.43	..
Harmony Hall	...	...	6.86
Lancaster	...	8.35	...
Vale Royal	...	12.47	8.09
Hyde	...	10.95	10.86
Georgia	...	10.42	7.99
Steelfield	...	7.95	7.55
Oxford	...	9.35	...
Cambridge	...	9.44	7.66
Dry Valley	...	7.80	..
Lottery	...	8.46	8.15
Falmouth	...	7.76	6.51
Holland Pen	...	9.09	...
Golden Grove	...	10.70	8.37
Pembroke	...	8.90	7.25
Green Park	...	...	8 30
Phœnix	...	14.22	...
Tilston	...	11.35	8.94
Orange Valley	...	11.43	6.70
Kent	...	11.39	6.21
Dundee	...	11.88	6.05
Weston Favel	...	19.29	...
Gale's Valley	...	19.95	8.16
Greenwood	St. James	9.25	...
Guilsbro'	...	15.95	...
Spring Vale	..	...	12 02
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	..
Leogan	...	...	...
Ironshore	...	8 88	4.94
Providence	...	...	...
Montego Bay (Market)	...	12.15	...
Catherine Hall	...	16.62	7.53
Catherine Mount	...	13.95	8.43
Fairfield	...	19.07	...
	Means	12.09	7.63

West Central Division.		May. 1888.	Average.
		In.	In.
Linstead	St. Catherine	29.77	7.29
Cave Valley	St. Ann	21.48	11.93
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	..	9 28	...
Windsor Pen	Trelawny	12 69	...
Maroon Town	St. James	13 88	...
Kepp	St. Elizabeth	16.36	14 89
Mount Edgecombe	Westmoreland	7.82	7.48
Windsor Forest	...	14.09	...
Woodstock	...	12.81	...
Struie	...	7 05	...
Kew Park	...	...	...
Hermitage	...	..	...
Chester Castle	Hanover	12.31	...
Copse	...	13 30	11.91
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	14 35	10.84
Wiltshire	...	16.45	10.15
Eden	...	17.19	...
Round Hill	Hanover	11.15	6.87
Cacoon Castle	...	19.34	13.42
Golden Grove	...	26.20	15.98
Great Valley Pen	...	17.55	...
Tryall	...	15.14	5.46
Sweet River	Westmoreland	...	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	12.03	11.06
Fontabelle	...	14.18	...
Belle Isle	...	16.45	...
King's Valley	...	17.63	...
Hanguton Court	Hanover	...	...
Orange Cove	...	16.29	8.49
Abingdon	...	19.60	...
	Means	17.28	10.21

Southern Division.		May. 1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	33 93	...
The Abbey	...	35 25	...
Halberstadt	St. Andrew	35.64	...
Middleton	...	...	...
Woodford	...	25.98	...
Hope Plantation	...	26.87	...
Cherry Garden	...	...	...
Constant Spring	...	...	...
King's House	...	29.14	...
Monaltrie	...	27.61	4.92
Public Works Office	Kingston	28.66	4.82
Franklyn Town	...	30.04	...
Elletson Road	...	32.13	...
Plumb Point L. H.	...	33.63	4.64
Spanish Town	St. Catherine	26.46	5.78
Windsor Park	...	...	...
Hog Hole Pen	...	27.20	6.89
Headworks, R. C. C.	...	26.75	8 81
Old Harbour	...	19.25	...
Springfield	Clarendon	29.03	...
Farm Plantation	Manchester	23.48	10.02
Stone's Hope	...	18.98	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	15.70	11.27
Long Hill	...	15.57	9.46
Potsdam	...	10.80	...

Southern Division, *contd.*		May. 1888.	Average
		In.	In.
Gilnock's Hall	St. Elizabeth	11.86	...
Santa Cruz (Poor House)	...	...	...
Black River	...	9.60	6.95
Bloomsbury	...	...	...
	Means	23.97	7.35

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 31.73 and 38.63 inches.

Comparative Table.

(Based upon the "Average" Stations only.)

	May. 1888.	Average.
	In.	In.
North Eastern Division	27.39	9.37
Northern "	12.09	7.63
West Central "	17.28	10.21
Southern "	23.97	73.5
The Island	20.18	8.64

The largest fall, 95.10 inches was recorded at Boston in Portland; the smallest 7.05 was recorded at Struie in Westmoreland.

The May Seasons, 1888.

The May Seasons this year have in parts of the Island rivalled the flood rains in June, 1886, and in one or two instances the rainfall has exceeded that of any previous month on record in Jamaica.

Every part of the Island has shared in the much needed "seasons," but it is in the Eastern part of the Island that falls of rain have been recorded from three to six and even in one case over eight times the average fall for May. This occurred at the Plumb Point Light House where the fall was 38.63 inches and the average is 4.64 inches.

The fall was greater on the coast than higher up inland, which is not usual, *e.g.*, at Plumb Point Light House 38.63; at Kingston, 28.66; at Monaltrie, 27.61; at Hope Plantation, 2[illegible].87; at Woodford, 25.98; and at Newton only 19.87, * At Cinchona Plantation at an elevation of nearly 5,0[illegible]0 feet the fall was 29.52, nine inches less than at Plumb Point Light House at the sea level, while at Newhaven Gap, 700 feet higher than Cinchona, the fall was 20.25 or nine inches less than at Cinchona. At Halberstadt, which is about 2,400 feet above sea-level and only about three miles distant in a direct line from the sea, the fall was 35.64 or three inches less than at sea level

On the North Eastern Coast, however, from Port Antonio to the East End, the most excessive falls took place.

The fall at Port Antonio was 71 inches, at Elmwood 62 inches, at Hordly and Quaw Hill 60 inches while at Boston it reached the enormous total of 95 inches for the month. † This far exceeds the largest monthly fall hitherto on record at any station in Jamaica, which was 64 inches at the Blue Mountain Peak during December, 1885.

The record at Boston is most interesting and seems to have been very carefully kept by Mr. F. A. Jencure, and can, I think, be strictly relied on, although the fall registered is so very considerably in excess that at Port Antonio on one side and Elmwood on the other side. A copy of it is here given in detail.

	In.		In.
Boston, May 3	0 10	May 18	0.09
6	1.25	19	0.09
7	0.62	21	0.02
8 }	19.85‡	23	0.45
9 }		25	2.13
10	8.20	26	5.80
11	2.20	27	3 09
12	12.00	28	2.75
13	2.76	29	3 22
14	25.78§	30	0.43
15	3.90	31	0.37
	Total		95.10

It will be seen that between 10 p.m. on the 8th and 10 p.m. on the 15th 74.69 inches fell at Boston which gives an average for seven days of 10 inches a day. For the same seven days the rainfall was as follows at the undermentioned places :—

Rainfall May, 8th to 15th.

——	Port Antonio.	Hordley.	Morant Point.	Halberstadt.	Plumb Point.	Kingston.	Cinchona Plantation.
	In.	In.	In.	In.	In.	In.	In.
May 8th	6.71 }¶		4.12	4.80	9.12	0.00 (to 10 p.m.)	3.73
" 9th	5.50 }	8.05		4.90	1.99	6.99	1.93
" 10th	1.58	12.32	5.10	5.75	7.02	7.77	5.35
" 11th	7.20	0.03		2.80	11.48	1.18	1.58
" 12th	10.30	10.92	7.00	8.33	1.04	9.34	5.10
" 13th	1.56	0.00		0.45	0.26	0.00	0.50
" 14th	5.35	0.22	1.50	1.95	1.85	0.37	3.95
" 15th	4.60	1.74	0.06	1.24	0 40	1.72	0.34
Total for week. 10 p.m. 8th to 10 p.m. 15th.	42.80	33.28	17.78	25.22	33.16	27.37	22.48

* The respective heights of these places may be taken as follow: sea-level, 50, 300, 700, 2,400 and 4,500 feet above sea-level.

† Six months' rainfall in the year at this rate would equal the highest annual rainfall known viz: 600 inches, which has been recorded on one range of hills in India.

‡ 18.09 inches fell between 10 p.m. on the 8th, and 1 p.m. on the 9th.

§ 11.78 inches between 8 a.m. and 8 p.m. 14th.
9.50 inches between 10 30 p.m. and 2 30 a.m. 15th.
4.50 inches between 2.30 a.m. and 6.am. 15th.

25.78 inches in 22 hours.

¶ 11 inches fell between 9 p.m. 8th, and 9 a.m. 9th, when gauge was found overflowing. The gauge probably overflowed also on the night of the 14th.

Mr. W. H. Allport writes that at Kepp on the 10th May 2.27 inches fell in 28 minutes, and 4.25 inches within one hour and 40 minutes during 12 minutes, of which time the rain ceased altogether.

Below is shown a comparison of the Island Rainfall generally (taking only "*Average*" stations) with that of June 1886.

——	MAY, 1888.	JUNE, 1886.
North Eastern Division	27.39	30.05
Northern "	12.09	12.70
West Central "	17.28	18.60
Southern "	23.97	32.31
The Island	20 18	23.42

The Rainfall generally in May, 1888, was therefore less than that in June, 1886, but with this exception it is the largest monthly fall for the whole Island that there is on record, the months next approaching it being May, 1870, October, 1870, October, 1879, and December, 1885, when there fell 17 38, 16.74, 15.69 and 15.60 inches respectively.

These heavy "seasons" between the 8th and 15th were accompanied by two small barometric depressions travelling westwards, the heaviest falls of rain occurring simultaneously with the slight falls of the barometer.

The following were the barometric readings at Kingston, corrected and reduced and further cleared for Diurnal Variation :—

7th—7 a m.	...	30.016
3 p m.	...	29.995
8th—7 a.m.	...	.961
3 p.m.	...	.939
9th—7 a.m.	...	.941
3 p.m.	...	.908
10th—7 a.m.	...	.856
3 p.m	...	.912
11th—7 a m.	...	.944
3 p.m.	...	.954
12th—7 a.m.	...	.874
3 p m.	...	.919
13th—7 a.m.	...	.909
3 p m.	...	.929
14th—7 a.m.	...	.932
3 p.m.	...	.960
15th—7 a.m.	...	29.997
3 p.m.	...	30.003

On only two occasions, at 7 a.m. on the 10th and 12th did the barometer fall as much as one-tenth of an inch below the mean for the time of day and year. At these times the rain was falling in torrents in Kingston. The fall in the barometer was therefore small and this again shows that the depth of a depression of this sort has no direct connection with the amount of rainfall, as was pointed out in the Weather Report for June, 1886. For example the depression that gave us some "seasons" in May of last year was deeper than that of this year or even that of June 1886, that is to say, the barometer fell lower, and yet all the rain we had in Kingston in May, 1887, was 3.82 inches.

There was little or no wind experienced anywhere during these rains, beyond occasional squalls, and as far as can be made out they do not appear to have done nearly as much damage as the rains in June, 1886, although of course some of the roads were considerably cut up and some landslips occurred. The railway lines do not appear to have suffered to any appreciable extent.

ROBT. JOHNSTONE.

Kingston,
28th June, 1888.

JAMAICA. JULY 30, 1888. No. 795

WEATHER REPORT

FOR THE MONTH OF

JUNE, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR JUNE, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature.		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	29.995	29.952	80.0	86.2	71.8	74.6	0.779	0.857	77	69
King's House ...	400	29.71	29.69	76.3	83.5	71.6	79.5	0.759	0.990	85	78
Castleton Gardens ...	580	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation ...	4,907	25.279	25.280	64.4	66.3	58.5	63.8	0.482	0.596	81	93

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	89.0	73.2	15.8	S.E.	82.7	93.6	28	70.1	16	23.5	2.76
King's House ...	85.	69.	16.	...	...	88.	23	66.	30	22.	1.47
Castleton Gardens ...	...	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation ...	70.8	59.4	11.4	E.	58.8	74.5	28	51.0	22	23.5	4.50

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
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March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35 00	Light mist. Fine and clear to South.	B. S. G.

* On the grass.

THE HEALTH OF KINGSTON.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	June.	
	1888.	Average.
Infantile diseases not otherwise specified ...	23	19
Lung diseases ...	13	14
Fever ...	28	7
Dysentery and Diarrhœa	21	7
Various ...	52	53
Total	137	100

RAINFALL FOR JUNE, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		June.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	2.52	6.24
Quaw Hill	...	4 88	...
Hordley	...	3.87	7.80
Elmwood (Long Bay)	Portland	2.92	...
Boston	...	...	...
Port Antonio	...	18.63	...

North-Eastern Division, *contd.*		June. 1888	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	4.50	6.33
New Haven Gap	...	...	..
Newton	...	5.89	...
Stony Hill Reformatory	...	5.17	6.01
Castleton Gardens	St. Mary	...	8.24
Dover	...	20.60	...
Quebec	...	6.64	...
Port Maria	...	5.71	...
New Rumble	...	...	4.23
Gayle	...	15.70	5 85
Goshen	...	...	...
Rio Hoe	St. Ann	10.22	9.97
Unity Valley	...	8.42	8.70
Albion	...	5.93	5.58
Averham Park	...	6.53	...
Bradfield	...	...	...
Drax Hall	...	8.45	...
Seville	...	8.84	3.78
Llandovery	...	9.10	3.24
Richmond Estate	...	...	3.25
	Means	7.43	6.35

Northern Division.		June. 1888.	Average.
		In.	In
Lillyfield	St. Ann	16.22	5.38
Home Castle	...	4.80	...
Richmond Pen	...	3.32	...
Colchis Pen	Trelawny	2 13	...
Mahogany Hall	...	4.41	2.77
Braco	...	5 20	...
Arcadia	...	4.84	...
Harmony Hall	...	...	1.68
Lancaster	...	4.86	...
Vale Royal	...	4.75	...
Hyde	...	4.29	...
Georgia	...	2.63	...
Steelfield	...	3.58	...
Oxford	...	5.05	...
Cambridge	...	6.10	...
Dry Valley	...	7.15	...
Lottery	...	6.45	...
Falmouth	...	6.69	2.01
Holland Pen	...	2.47	...
Golden Grove	...	6.85	5.79
Pembroke	...	...	3.37
Green Park	...	...	2.68
Phœnix	...	6.00	...
Tilston	...	6.23	4.34
Orange Valley	...	6.42	2.80
Kent	...	4.29	2.89
Dundee	...	5.40	3.26
Weston Favel	...	6.18	...
Gale's Valley	...	6.78	5.66
Greenwood	St. James	5.19	...
Guilsbro'	...	5.95	...
Spring Vale	...	...	9.21
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	2.32
Leogan	...	...	...
Ironshore	...	5 28	4.16
Providence	...	...	...
Montego Bay (Market)	...	7.87	...
Catherine Hall	...	5.59	6.05
Catherine Mount	...	7.59	6.55
Fairfield	...	7.40	...
	Means	6.81	4.31

* On one day.

West Central Division.		June. 1888.	Average.
		In.	In.
Linstead	St. Catherine	2.76	6.80
Cave Valley	St. Ann	2.78	...
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	5 00	7.20
Windsor Pen	Trelawny	10.63	...
Maroon Town	St. James	7.34	...
Kepp	St. Elizabeth	4.20	7.26
Mount Edgecombe	Westmoreland	2.88	5.61
Windsor Forest	...	6.15	...
Woodstock	...	5.59	...
Struie	...	5 85	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	8.01	...
Copse	...	...	8.85
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	11.46	7.12
Wiltshire	...	5.93	8.21
Eden	...	10.36	...
Round Hill	Hanover	6.10	6.20
Cacoon Castle	...	10.70	10.51
Golden Grove	...	10.89	10.92
Great Valley Pen	...	...	...
Tryall	...	6.71	7.98
Sweet River	Westmoreland	...	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	4.44	6.68
Fontabelle	...	4.99	...
Belle Isle	...	4.00	...
King's Valley	...	9.16	...
Haughton Court	Hanover	...	...
Orange Cove	...	11.29	...
Abingdon	...	9.83	...
	Means	6.46	7.68

Southern Division.		June. 1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	4.29	...
The Abbey	...	8.15	...
Halberstadt	St. Andrew	5.06	...
Middleton	...	...	...
Woodford	...	4.35	...
Hope Plantation	...	5.49	...
Cherry Garden	...	...	...
Constant Spring	...	3.87	...
King's House	...	1.47	3.12
Monaltrie	...	3.32	3.53
Public Works Office	Kingston	2.67	3.32
Franklyn Town	...	...	...
Elletson Road	...	...	...
Plumb Point L. H.	...	2.56	3.79
Spanish Town	St. Catherine	2.02	3.74
Windsor Park	...	3.70	...
Hog Hole Pen	...	1.92	3.90
Headworks, R. C. C.	...	2.20	5.50
Old Harbour	...	8.20	...
Springfield	Clarendon*	5.61	...
Farm Plantation	Manchester	8.66	6.70
Stone's Hope	...	11.15	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	7.30	2.68
Long Hill	...	9.29	2.92
Potsdam	...	2.22	...

Southern Division, *contd.*		June.	
		1888.	Average
		In.	In.
Gilnock Hall	St. Elizabeth	...	...
Santa Cruz (Poor House)	...	3.48	...
Black River	...	3.30	2.68
Bloomsbury	...	...	...
	Means	4.28	3.79

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 2.09 and 2.56 inches.

Comparative Table.
(Based upon the "Average" Stations only.)

	June.	
	1888.	Average.
	In.	In.
North Eastern Division	7.43	6.35
Northern "	6.81	4.31
West Central "	6.46	7.68
Southern "	4.28	3.79
The Island	6.24	5.53

The greatest fall 20.60 inches was recorded at Dover St. Mary; the smallest 1.92 inches was recorded at Hog Hole Pen St. Catherine. Robt. Johnstone,
24th July, 1888.

Note.—It is requested that in future all Rainfall and other communications be sent to Mr. Maxwell Hall, Montego Bay, P.O. R. J.

JAMAICA. AUGUST 31, 1888. No. ~~95~~ 96

WEATHER REPORT

FOR THE MONTH OF

JULY, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR JULY, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	30.021	29.971	79.8	88.3	72.6	76.0	0.801	0.897	79	68
King's House ...	400	29.74	29.71	76.9	88.8	71.2	74.5	0.759	0.854	82	62
Castleton Gardens ...	580	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation ...	4,907	...	...	...	...	...	...	...	...	...	...

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Drte.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	90.9	74.2	16.7	S.E.	71.1	94.6	28	70.8	24	23.8	1.88
King's House ...	85.0	71.6	13.4	...	...	87.	2*	68.	24	19.	2.71
Castleton Gardens ...	...	...	...	...	...	...	...	...	...	...	...
Cinchona Plantation ...	...	...	...	...	...	...	...	...	...	...	...

* And several other days.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ..	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35 00	Light mist. Fine and clear to South.	B. S. G.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	July.	
	1888.	Average.
Infantile diseases not otherwise specified ...	16	16
Lung diseases ...	17	18
Fever ...	34	6
Dysentery and Diarrhœa	24	3
Various ...	60	54
Total	151	97

Rainfall for July, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		July.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	0.48	3.48
Quaw Hill	...	0.00	...
Hordley	...	3.26	6.29
Elmwood (Long Bay)	Portland	3.90	...
Boston	...	...	...
Port Antonio	...	4.50	...

North-Eastern Division, *contd.*		July.	
		1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	0.89	4.78
New Haven Gap	...	...	..
Newton	...	0.62	...
Stony Hill Reformatory	...	2.50	4.80
Castleton Gardens	St Mary	2.08	7.32
Dover	...	0.00	...
Quebec	...	0.00	...
Richmond	...	0.10	...
Port Maria	...	0.60	...
New Rumble	...	...	...
Gayle	...	0.30	...
Goshen	...	...	...
Rio Hoe	St. Ann	1.10	5.05
Unity Valley	...	2.27	6.91
Mo reague	...	0.75	...
Albion	...	0.97	4.13
Averham Park	...	0.23	...
Bradfield	...	0.00	4.28
Drax Hall	...	...	2.91
Seville	...	0.00	2.02
Llandovery	...	0.00	1.00
Richmond Estate	...	...	...
	Means	1.23	4.55

Northern Division.		July.	
		1888.	Average.
		In.	In
Lillyfield	St. Ann	0.75	2.53
Home Castle	...	0.68	...
Richmond Pen	...	2.35	...
Colchis Pen	Trelawny	0.51	...
Mahogany Hall	...	3.10	5.04
Braco	...	...	2.41
Arcadia	...	0.70	...
Harmony Hall	...	...	...
Lancaster	...	0.10	2.66
Vale Royal	...	0.56	3.48
Hyde	...	1.06	6.21
Georgia	...	...	2.92
Steelfield	...	0.15	3.07
Oxford	...	1.09	
Cambridge	...	0.84	3.75
Dry Valley	...	0.70	..
Lottery	...	1.10	2.40
Falmouth	...	...	1.49
Holland Pen	...	1.36	...
Golden Grove	...	0.50	5.70
Pembroke	...	...	3.06
Green Park	...	...	...
Phœnix	...	2.82	...
Tilston	...	1.35	4.44
Orange Valley	...	0.00	2.84
Kent	...	0.10	1.37
Dundee	...	0.81	3.91
Weston Favel	...	2.19	
Gale's Valley	...	...	5.30
Greenwood	St. James	1.00	...
Guilsbro'	...	1.60	...
Spring Vale	...	...	...
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	...
Leogan	...	...	...
Ironshore	...	0.60	2.06
Providence	...	...	...
Montego Bay (Market)	...	...	...

Northern Division, *contd.*		July.	
		1888.	Average.
Catherine Hall	...	1.53	3.33
Catherine Mount	...	1.42	4.89
Fairfield	...	1.43	...
	Means	0.87	3.60

West Central Division.		July.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	3.31	5.05
Cave Valley	St. Ann	1.93	5.15
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	..	6.96	7.54
Windsor Pen	Trelawny	5.80	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	8.32	8.31
Mount Edgecombe	Westmoreland	3.25	7.11
Windsor Forest	...	4.56	...
Woodstock	...	7.54	...
Struie	...	5.95	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	7.67	...
Copse	...	3.40	8.66
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	5.64	5.25
Wiltshire	...	5.23	6.27
Eden	...	2.52	...
Round Hill	Hanover	1.45	4.70
Cacoon Castle	...	7.29	7.75
Golden Grove	...	6.45	7.92
Great Valley Pen	...	...	...
Tryall	...	3.49	5.56
Sweet River	Westmoreland	3.21	...
Mackfield	...	..	...
Windsor (Sav -la-Mar)	...	3.27	7.59
Fontabelle	...	7.29	...
Belle Isle	...	6.90	...
King's Valley	...	6.40	...
Haughton Court	Hanover	...	...
Orange Cove	...	3.89	6.62
Abingdon	...	5.45	...
	Means	4.56	6.75

Southern Division.		July.	
		1888.	Average.
Albion Hospital	St. Thomas	1.39	...
The Abbey	...	3.00	...
Halberstadt	St. Andrew	1.63	...
Middleton	...	2.03	...
Woodford	...	1.56	...
Hope Plantation	...	2.13	...
Cherry Garden	...	2.50	...
Constant Spring	...	1.54	...
King's House	...	2.71	...
Monaltrie	...	2.63	2.73
Public Works Office	Kingston	1.71	2.03
Franklyn Town	...	2.58	...
Elletson Road	...	...	...
Plumb Point L. H.	...	1.26	2.17
Spanish Town	St. Catherine	4.20	1.84
Windsor Park	...	...	...
Hog Hole Pen	...	2.96	2.41

SOUTHERN DIVISION, *contd.* JULY.

		1888.	Average.
		In.	In.
Headworks, R. C. C.	...	3.19	3.94
Old Harbour	...	0.69	..
Springfield	Clarendon	...	2.47
Farm Plantation	Manchester	3.74	3.67
Stone's Hope	...	2.83	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	3.15	2.71
Long Hill	...	5.24	4.34
Potsdam	...	2.07	...
Gilnock Hall	St. Elizabeth	3.89	...
Santa Cruz (Poor House)	...	4.90	...
Black River	...	3.49	5.16
Bloomsbury	...	...	...
	Means	3.16	3.10

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 0.98 and 1.26 inches.

COMPARATIVE TABLE.

(*Based upon the "Average" Stations only.*)

JULY.

	1888.	Average.
	In.	In.
North Eastern Division	1.23	4.55
Northern "	0.87	3.60
West Central "	4.56	6.75
Southern "	3.16	3.10
The Island	2.46	4.50

The greatest fall 8.32 inches was recorded at Kepp in St. Elizabeth, while no rain was recorded at the following Stations:—Quaw Hill in St. Thomas, Dover and Quebec in St. Mary, Averham Park, Seville and Llandovery in St. Ann, and Orange Valley in Trelawny.

There was a slight shock of earthquake felt in Kingston at 3.42 a m. on the 2nd July.

TIDES ON THE COASTS OF JAMAICA.

As the rise and fall of the Tides round Jamaica do not exceed 10 or 11 inches, we clearly do not require the times of High and Low water for nautical purposes, and an extension of the calendar in the *Handbook* so as to include the daily tides throughout the year, would prove to be labour lost.

But sometimes we want to know, however roughly, whether it is High or Low water; for instance the sea often rises or falls so much above or below its usual level as to attract the general attention of those who live near the shore, and then the question of tide arises; for if the unusual rise or fall be at times of Low or High water, of course the disturbance noted is all the greater.

Such disturbances are produced by strong prevailing winds at a distance, by hurricanes, and by earthquakes.

But putting these exceptional circumstances aside, the tide has a curious effect upon the daily weather which may be thus briefly expressed:—a rising tide increases the local action of the weather. And this effect, though confined to the coasts, has been found to exist all over the world. (See *Weather* by Hon. R. Abercromby, p. 292.)

Accordingly, on a squally day on the coast the squalls would increase in strength when the tide was making; a matter of considerable importance to fishermen and others. And it does not seem unreasonable to suppose that the strong winds which often blow on the hills for an hour or so during the night, apparently irregularly may sometimes be traced to such tidal action.

Hence the following approximate and general table has been drawn up for Jamaica; it is based upon an Establishment of 11 hrs. 0 min. at Port Royal given by Captain Green, U.S.N. (*Navigation of the Caribbean Sea and Gulf of Mexico*, vol. I, p. 244); and the day of New or Full Moon from which the following days are to be reckoned should be expressed in civil local time. Thus the New Moon in May this year occurred on the 11th at 1 hr. 24 min. a.m., Greenwich time, or on the 10th at 8 hr. 17 min. p.m., Kingston time; and for our purposes we must take the latter date, namely, the 10th, as that of New Moon. These local dates of New and Full Moon (and of the Quarters) are given in the *Handbooks of Jamaica*:—

	Time of High water. *First tide.*		*Second tide*	
	hr.	min.	hr.	min.
Day of New or Full Moon	10	41 a.m.	11	0 p.m.
1 day after " " "	11	18 "	11	36 "
2 days " " " "	11	54 "	...	
3 " " " "	12	12 "	12	30 "
4 " " " "	12	48 "	1	5 "
5 " " " "	1	25 "	1	44 "
6 " " " "	2	4 "	2	25 "
7 " " " "	2	47 "	3	12 "
8 " " " "	3	40 "	4	7 "
9 " " " "	4	40 "	5	13 "
10 " " " "	5	50 "	6	25 "
11 " " " "	7	2 "	7	35 "
12 " " " "	8	11 "	8	37 "
13 " " " "	9	4 "	9	28 "
14 " " " "	9	49 "	10	10 "

In each semi-lunation there is always one day on which there is but one tide. It will be noticed that for Jamaica this day occurs two days after New or Full Moon.

The table is probably quite correct for the first five or six days and for the last two days; but for the remaining days "the age of the tide" may cause an error not exceeding 15 min.

MAXWELL HALL.

Kempshot, 22nd August, 1888.

THE JAMAICA WEATHER SERVICE, 1888.

(1) During the hurricane months of August, September and October, the weather will be considered disturbed when the Barometer is falling and when it has fallen between one and two-tenths of an inch below its mean value for the time of day and year, all due corrections having been applied.

(2) Should the weather during these months be disturbed at any time, a circular telegram will be dispatched as soon as possible, and copies of this telegram will be posted at all the Telegraph Stations in the Island.

(3) Each circular telegram will give the hour of dispatch, the reading of the Barometer corrected and reduced, the temperature of the air, the direction and force of the wind, the weather, and any remarks which may be necessary. The forms used in posting copies of the telegram are printed on red paper.

(4) After the first circular telegram has been dispatched a second circular telegram will be sent either to convey special warning, or to relieve unnecessary alarm, as soon as the position and motion of the centre of the disturbance can be ascertained by an exchange of telegrams between the observers at Kingston, Montego Bay, and Santiago de Cuba, or between any two of them.

(5) The first circular telegram is intended to call public attention to the disturbed state of the weather as soon as possible; the second circular telegram is intended to give definite information and warning

when necessary. But due care should always be taken after the issue of the first telegram; for the telegraph wires may be broken before the second can be despatched; and under any circumstances, two centres, or the curvature of a single centre on its course, may confuse the indications.

(6) In order to render the weather service effective in warning the shipping in the different ports of the Island, copies of the telegrams referred to above will be given to the Harbour Masters at Milk River, Black River, Sav.-la-Mar, Lucea, Montego Bay, Falmouth, St. Ann's Bay, Port Maria, Port Antonio, and Morant Bay, or to their representatives as the Government may direct, who upon the receipt of the first telegram will keep themselves in readiness to warn the shipping in harbour should the second telegram render such warning necessary.

(7) The Harbour Masters have been supplied with hurricane flags and lamps; the flags are six feet square, having red borders, enclosing black centres two feet square; the lamps, for use at night, emit a strong red light. Expensive flag-staffs are quite unnecessary for this service; provided the flags and lamps can be seen by the shipping in port their utility will depend upon the signals being understood, a matter which may very properly be left for the consideration of the Harbour Masters.

(8) The hurricane signals will be hoisted only under the following circumstances:—when specially ordered by warning telegrams, or when the telegraph wires are down and a storm is clearly approaching.

(9) With the aid of the Harbour Master of Kingston special arrangements will be made as last year for warning the shipping in that port. As heretofore notices will be posted during the day, when necessary, at the Colonial Secretary's Office, the Merchants' Exchange in Duke Street, and Mr. John McDonald's Store in Harbour Street; and if necessary, hurricane flags will be hoisted at the two former places

(10) Arrangements are being made with the Jamaica Post Office, so that when under special circumstances due notice can be given to the Postmaster for Jamaica, the wires may be kept open between 5 p.m. and 7 a.m., and also on Sundays.

(11) Since the establishment of the Service in 1880, twenty-three cyclonic disturbances have passed within barometic range of Jamaica, and information respecting them has been telegraphed round the Island without causing unnecessary alarm in a single case, for on two occasions only, namely, before the hurricanes of August 18th, 1880, and August 20th, 1886, have orders been given to hoist the hurricane signals.

We may therefore expect that three disturbances will on an average be telegraphed round the Island each hurricane season; but only once in these eight years has it been necessary to telegraph at night, namely, on August 19th, 1886, and it has never been necessary to telegraph on a Sunday. But the emergency may arise, and it should be provided for; the Telegraph Clerks may, however, be assured that their services will never be asked for beyond the usual working hours, except when absolutely necessary from a meteorlogical point of view.

MAXWELL HALL.

Kempshot Observatory,
August 6th, 1888

JAMAICA. SEPTEMBER 28, 1888. No. 97.

WEATHER REPORT

FOR THE MONTH OF

AUGUST, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR AUGUST, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7. a.m.	3 p.m.	7. a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	29.991	29.936	78.1	87.1	71.9	73.3	0.782	0.820	81	72
King's House ...	400	29.70	29.66	75.9	85.7	70.3	80.1	0.741	1.026	83	83
Castleton Gardens ...	580	29.59	29.58	71.8	83.6	70.6	73.1	0.749	0.815	96	71
Cinchona Plantation ...	4,907	25.269	25.269	64.5	67.4	59.2	63.8	0.503	0.592	83	88

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	90.4	73.3	17.1	S.E.	58.4	92.9	22	68.8	28	24.1	2.44
King's House ...	84.1	68.9	15.2	...	...	88	7	65	29	23	3.86
Castleton Gardens ...	89.1	70.5	18.6	...	...	91.5	7*	67.5	22	24.0	3.40
Cinchona Plantation ...	73.5	60.1	13.4	E.	83	75	2†	55	28	20	4.24

* And 13. † And 16 and 20.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35.00	Light mist. Fine and clear to South.	B. S. G.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	August.	
	1888.	Average.
Infantile diseases not otherwise specified ...	6	12
Lung diseases ...	6	16
Fever ...	22	4
Dysentery and Diarrhœa	7	3
Various ...	44	43
Total	85	78

Rainfall for August, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		August.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	2.43	5.46
Quaw Hill	...	2.30	...
Hordley	...	5.96	10.78
Elmwood (Long Bay)	Portland	6.05	...
Boston	...	8.40	...
Port Antonio	...	13.51	...

North-Eastern Division, *contd.*		August. 1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	4.24	8.18
New Haven Gap	...	...	..
Newton	...	3.60	...
Stony Hill Reformatory	...	11.02	12.66
Castleton Gardens	St Mary	3.40	10.48
Dover	...	5.90	...
Quebec	...	4.74	...
Richmond	...	3.43	...
Port Maria	...	4.40	...
New Ramble	...	...	5.69
Gayle	...	3.61	6.26
Goshen	...	...	...
Rio Hoe	St. Ann	3.92	8.56
Unity Valley	...	6.68	8.33
Moneague	...	...	...
Albion	...	7.49	5.85
Averham Park	...	..	...
Bradfield	...	3.74	5.05
Drax Hall	...	2 80	3.81
Seville	...	3.20	3.63
Llandovery	...	3.55	2.29
Richmond Estate	...	2.84	...
	Means	4.69	6.80

Northern Division.		August. 1888.	Average.
		In.	In
Lillyfield	St. Ann	...	5.50
Home Castle	...	0.63	...
Richmond Pen	...	7.55	...
Colchis Pen	Trelawny	5.61	...
Mahogany Hall	...	6.69	6.34
Braco	...	1.04	3.88
Arcadia	...	2.39	..
Harmony Hall	...	0.64	2.82
Lancaster	...	0.97	3.87
Vale Royal	...	2.83	5.44
Hyde	...	6.91	7.12
Georgia	...	...	4.64
Steelfield	...	3.90	4.66
Oxford	...	2.45	..
Cambridge	...	3.78	4.17
Dry Valley	...	1.78	..
Lottery	...	2.98	3.96
Falmouth	...	2.37	3.00
Holland Pen	...	1.42	...
Golden Grove	...	4.85	5.50
Pembroke	...	...	5.26
Green Park	...	...	3.79
Phœnix	...	3.50	...
Tilston	...	3.10	5.94
Orange Valley	...	1.88	3.57
Kent	...	2.72	2.90
Dundee	...	2.21	5.36
Weston Favel	...	3.59	...
Gale's Valley	...	3.62	6.88
Greenwood	St. James	2.40	...
Bellfield	...	1.60	...
Guilsbro'	...	3.27	...
Spring Vale	...	...	12.84
Cinnamon Hall	...	...	...
Rose Hall	...	...	...
Running Gut	...	...	...
Leogan	...	...	...
Ironshore	...	3.33	4.41
Providence	...	...	...
Montego Bay (Market)	...	4.76	...

Northern Division, *contd.*		August. 1888.	Average.
		In.	In.
Catherine Hall	St. James ...	6.77	6.40
Catherine Mount	...	4.78	8.31
Fairfield	...	6.58	...
	Means	3.60	5.10

West Central Division.		August. 1888.	Average.
		In.	In.
Linstead	St. Catherine	6.66	7.41
Cave Valley	St. Ann	5.70	8.68
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	7.50	...
Appleton	...	8.76	12.48
Windsor Pen	Trelawny	8.63	...
Maroon Town	St. James	10.79	...
Kepp	St. Elizabeth	12.72	11.32
Mount Edgecombe	Westmoreland	7.55	5.96
Windsor Forest	...	20.05	...
Woodstock	...	12.70	...
Struie	...	13.05	...
Kew Park	...	6.42	...
Hermitage	...	...	...
Chester Castle	Hanover	9.87	...
Copse	...	4.93	12.70
Haughton Grove	...	...	...
Kempshot	St. James	6.80	...
Anchovy	...	4.34	8.83
Wiltshire	...	6.07	8.57
Eden	...	4.34	...
Round Hill	Hanover	3.00	5.45
Cacoon Castle	...	4.42	10.86
Golden Grove	...	8.14	11.04
Great Valley Pen	...	6.95	...
Tryall	...	4.18	6.06
Sweet River	Westmoreland	8.03	...
Mackfield	...	...	...
Windsor (Sav -la-Mar)	...	6.01	7.17
Kew	Hanover	6.42	...
Fontabelle	Westmoreland	13.43	...
Belle Isle	...	10.80	...
King's Valley	...	...	...
Haughton Court	Hanover	...	...
Orange Cove	...	4.92	7.45
Abingdon	...	8.27	...
	Means	6.05	8.58

Southern Division.		August. 1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	3.57	...
The Abbey	...	9.65	...
Halberstadt	St. Andrew	4.65	...
Middleton	...	...	...
Woodford	...	...	...
Hope Plantation	...	4.02	...
Cherry Garden	...	7.29	...
Constant Spring	...	8.62	...
King's House	...	3.86	7.75
Monaltrie	...	3.85	6.36
Public Works Office	Kingston	2.27	6.01
Franklyn Town	...	...	...
Elletson Road	...	...	...
Plumb Point L. H.	...	2.90	5.32
Spanish Town	St. Catherine	2.58	7.28
Windsor Park	...	...	...
Hog Hole Pen	...	3.95	7.24

Southern Division, *contd.*		August. 1888.	Average.
		In.	In.
Headworks, R. C. C.	St. Catherine	5.43	8.14
Old Harbour	...	5.18	...
Springfield	Clarendon	...	...
Farm Plantation	Manchester	...	10.15
Stone's Hope	...	5.90	...
Brokenhurst Plant.	...	...	...
Pepper	St. Elizabeth	2.50	7.61
Long Hill	...	6.38	5.69
Potsdam	...	5.16	...
Gilnock Hall	St. Elizabeth	2.84	...
Santa Cruz (Poor House)	...	5.58	...
Black River	...	3.51	7.21
Bloomsbury	...	...	...
	Means	3.67	6.86

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 2.53 and 2.90 inches.

Comparative Table.

(*Based upon the "Average" Stations only.*)

	August. 1888.	Average.
	In.	In.
North Eastern Division	4.69	6.80
Northern "	3.60	5.10
West Central "	6.05	8.58
Southern "	3.67	6.86
The Island	4.50	6.84

The largest fall namely 20.05 inches was recorded at Windsor Forest in Westmoreland; the smallest 0.63 inches was recorded at Home Castle in St. Ann.

The Corporal in charge of the Constabulary Station at Maroon Town in St. James reports that a hail-storm accompanied with rain and high wind occurred at that place on the 10th August.

Maxwell Hall.

Kempshot Observatory, 19th Sept., 1888.

WEST INDIAN CYCLONES.

As recently observed in Jamaica.

As it is necessary to amend and enlarge the notice given in *Weather Report* No. 86 respecting the commencement of the Cyclone which passed over Cuba on the 10th October, 1887, and to carefully discuss the observations made in Jamaica, it becomes advisable to give a brief account of the more prominent features of such Cyclones as have passed within reach of our observation during the past ten or twelve years.

Where Cyclones Originate.—If we look at the *Pilot Charts* published each month by the United States Hydrographic Office we shall see that when the region of equatorial heavy rains between South America and Africa reaches as far north as altitude 15°, Cyclones originate in about that latitude but to the west of the region of heavy rains, and then move off on a westerly course. Heavy rains in the West Indies are intimately connected with a slight reduction of the atmospheric pressure; and reduction of pressure over a considerable area is apparently necessary for the generation of Cyclones. Another essential is the diverting effect of the earth's rotation upon currents of air, so that while currents of air are moving towards the area of low pressure, the rotation of the earth diverts their motion into one of cyclonic rotation round that area. At the equator the diverting effect of the earth's rotation is *nil*; so that Cyclones do not occur at or near the equator; but the effect increases with the *sine* of the latitude, and we see that in latitude 15° it is sufficient to give the currents the divergence necessary for the generation of Cyclones.

Cyclones therefore commence by the circulation of the air round considerable areas where the barometric pressure is slightly reduced; but they develope as they move along their courses; and it is for this reason that they are generally first noticed when some distance to the west of the region of heavy rains.

Now as the region of heavy rains advances as far north as latitude 15° in August, somewhat farther north in September and October, but withdraws far to the southward in November and remains there until the following July, it is evident that August, September and October, are the months in which Cyclones usually occur in the West Indies. Of course they may occur at other places and at other times if all the essentials are present and combine.

Widely Extended fall of the Barometer.—After a large Cyclone has developed, a well-marked fall in the barometer occurs at places far distant from the centre; this fall is very small, perhaps not more than half a tenth of an inch, but it is tolerably sudden, and the drop should attract the attention of every observer.

Let us consider this feature more carefully; at a given place far in front of an advancing Cyclone there will be a barometric gradient however small; and for places still farther, there will be gradients still smaller; so that at the given place the first fall noticed will be the sum of all the gradients from the extreme limit back to that place, and this sum may be a sensible quantity; but as the gradient is very small, the regular fall due to the approach of the Cyclone may be practically insensible at first.

This drop was noticed in the cases of the Cyclones of 1876 and 1877 which passed South of Jamaica on their westerly courses, when the Cyclones were far distant; it was noticed in the case of the Cyclone of 1880 which passed over Jamaica; but the first use made of the drop was in the case of the Cyclone which passed St. Thomas, Aug. 22nd, and Turks Islands, Aug. 24th, 1881; the Cyclone was 800 miles away and the drop in Jamaica was about half a tenth.

Since that time these small and sudden depressions of the barometric level have often been noticed when Cyclones sweep these seas, and they are useful in calling closer attention to the weather.

Secondary Cyclones.—As a Cyclone moves along its course, the pressure no doubt gives way in advance; but a steady fall does not begin at any place until the distance of the centre is comparatively small.

Now this continuous fall, or the drop alluded to above, or both combined, very frequently aids the generation of another, and at first a smaller Cyclone, which we shall call the *secondary* to distinguish it from the *primary*. While the secondary is developing, the isobars connecting it with the primary are no doubt similar to the isobars forming secondaries in the Temperate zones*; but here the similarity ceases, for as soon as the West Indian secondary is developed, it moves off on its own accord, keeping out of the way of the primary.

Thus as the primary of 1880 was approaching, or passing by, Jamaica, a secondary generated near the east end of the Island, got entangled among the mountain ranges, and did a great deal of damage; another secondary generated at Aux Cayes in Hayti where there were very heavy rains, but nothing further is known about its course or history. The primary turned on its

*See *Weather* by Hon. R. Abercromby, London, Kegan Paul Trench & Co.

course and passed across Jamaica, and it is very remarkable how carefully the first secondary kept out of its way. A third and smaller centre was sent off whirling to the eastwards, but this was a very minor affair.

In September 1883, a large Cyclone advanced through the Mona Passage on its course to the United States, and at the same time a secondary developed and passed south of Jamaica on a westerly course (*Jamaica Weather Report* No. 30.)

In September 1884, there were two or three Cyclones in existence, and within barometric range of one another, at the same time. (*Weather Report* No. 47.)

In August 1886 as the primary was advancing towards Jamaica, a secondary was devoloped apparently in Jamaica; the secondary passed northwards near the town of St. Ann's Bay and so got out of the way of the primary which passed diagonally across the Island. (*Weather Report* No. 69. *See Chart.*)

These secondaries confuse the indications so that the task of issuing warnings well in advance of the storms is made very difficult.

General Cyclonic Features.—All the Cyclones, primaries and secondaries, which have passed Jamaica, and of which we have definite knowledge, confirm the cyclonic theory established by English and American writers;—such as the general rotation round, and the influx of the wind towards, the centre; the dependence of the velocity of the wind on the gradient; and so on.

But in the Cyclones of 1880 and 1886, which both crossed the Island, the irregularities of wind and lower cloud drift were so great as to be misleading. Theory requires that when a person turns his back to the wind the centre of low pressure should lie, not exactly to his left hand, but somewhere between his left hand and his face; consequently in 1886 when the centre was at Kingston, and when it was on its course towards Montego Bay, the wind and lower cloud drift at the latter town should have been N., instead of N.E. and E.N.E., from which directions the wind and lower clouds came up persistently for twelve hours before the arrival of the centre which passed east of Montego Bay. In 1880 the chief irregularities were no doubt due to confusion caused by different centres; but this was not the case in 1886, for the secondary got away as the primary reached Kingston, and moreover the effect of the secondary would have been to have backed the wind at Montego Bay to N.W. instead of veering it to N.E. and E.N.E. These winds therefore made it appear that the Cyclone was south of Montego Bay, and had any vessel left the harbour to seek safety to the eastward, the vessel would have run straight into the Cyclone.

From this example and from others which could be brought forward it might seem necessary to compound the two motions of translation and rotation of a Cyclone, so that the wind would always be stronger on the N.E. side than on the S.W. side of a Cyclone advancing over Jamaica, and so that the wind on the N.E. side would be directed somewhat away from the centre. But it so happens that we often experience shallow depressions, the subject of the next section, which are real Cyclones in all respects excepting that the fall at the centre, or calm area, is very small indeed; now these shallow depressions have very small gradients, and consequently the winds which circulate, are very gentle; but the depressions themselves may be advancing with a very considerable velocity without influencing the winds in the slightest degree, so that it becomes clearly impossible to compound the motions of translation and rotation.

A very beautiful example occurred on Sept. 3rd, 1888, while these pages were being written; a very shallow depression passed west of Kingston and east of Kempshot across the Island; from the gradients observed, the N. wind at the Observatory was perfectly correct, namely 5 miles an hour; and as the calm area passed, the wind and lower clouds backed in the most approved-of manner. But while all this was going on with the utmost regularity, the whole depression calm centre and all, was advancing at the rate of 15 miles an hour!*

Mr. Albercromby writes to the same effect in his admirable book on *Weather* (pp. 130, 200, &c.) where he bases his conclusions on the effects observed when Cyclones advance rapidly; our Cyclones move comparatively slowly, say from 10 to 20 miles an hour, the average velocity being 15 miles an hour.

This advancing motion of a Cyclone is very perplexing: however, as each particle of air is brought by the advance under varying gradients, so it moves, in accordance with mechanical principles; the general results, or integrals, are for the most part satisfactory, but subject, as already said, to considerable variation at different times and places.

Returning to the subject of irregularity of surface winds and lower cloud drift, Mr. Abercromby shows (p. 93) that while the surface winds draw in a little towards the centre, the highest clouds move out a little from the centre. Consequently some of the upper clouds should move at right angles to the centre: and in Jamaica we find that the clouds known as *cirro-stratus* generally move at right angles to the direction of the centre. Now as a large amount of *cirro-stratus* is itself a storm-warning, it would be most useful and interesting to know that the motion of these clouds could generally be assumed at right angles to the direction of the centre.

With regard to the fall of the barometer at the centre of a Cyclone, it is a remarkable fact that in almost all the cases which have occurred of late years and of which we have had information, the fall has invariably been about an inch.

Finally there is a Cyclonic feature often noticed in Jamaica of which we have seen no account given elsewhere:—after a Cyclone has passed, and is moving away, it draws after it our winds and clouds for one or two days. To whatever cause this effet may be attributed it is very useful in letting us know in what direction the Cyclone is moving.

Shallow Depressions.—But besides primary and secondary Cyclones where the fall of the barometer is generally about an inch, as already said, and where the winds near the centre are more or less violent, we often experience shallow depressions where the fall of the barometer is about a tenth of an inch, or even less, and where the winds are as a rule very gentle.

These depressions move along their courses like Cyclones; the higher clouds move round their centres in the usual manner; and the motion of rotation may or may not be strong enough to change the usual surface winds; they are large, and the calm areas at the centres are sometimes very large; so that these depressions may be described as large rings of gentle winds and slow cloud-drift which circulate round calm areas of small barometric depression.

We have now carefully to consider these depressions, whose presence can be detected by the barometer and the movement of the clouds, but whose approach cannot be forewarned as in the case of Cyclones.

To begin with, we owe the greater part of our rain in Jamaica to these depressions, for all our general or widely distributed rains are due to them, so that there is an intimate connection between the average height of the barometer and the average rainfall each month. The connection may be thus described: if we subtract the average height of the barometer during any month

* Continuing its N.W. course the depression reached Sagua in Cuba on the 4th: it then turned, and passed over Havana on the 6th on its way to the Gulf—considerable damage was done, and, many lives were lost at both places.

from 30.102, and multiply the remainder by 48, we shall get the average Island Rainfall for that month; and as an example we give the following table which refers to the years 1880-1884 inclusive —

ISLAND RAINFALL.

Month.	*Mean Bar.*	*Observed.*	*Computed.*
	Inches.	Inches.	Inches.
Jan.	30.063	3.20	1.87
Feb.	30.058	2.97	2.11
Mar,	30.046	2.80	2.69
Apr.	30.012	2.95	4 32
May	29.978	7.19	5 95
June	30. 07	4.42	4.56
July	30.032	3.19	3.36
Aug.	29.987	5.88	5.52
Sept.	29 967	6 32	6.48
Oct.	29.939	8.23	7.82
Nov.	29.966	4.67	6.53
Dec.	30.007	4 04	4.56

This connection is very interesting, but very difficult to follow up; as a depression passes over us it may deluge us with rain of its own collecting, as in the case of the flood rains in June 1886, or of the "Northers" of December, 1885, or it may merely increase the local action in the summer time, when the piled-up masses of *cumulus* cloud combine together and give us "May seasons" or similar rains

These depressions form a class of themselves: they are not merely small Cyclones in course of development; but they visit us at all times and all seasons; during the summer months they follow the course of the Gulf Stream; during the winter months they move from Northwest to Southeast and give us our Northers. And unless this fact be grasped the weather in Jamaica must appear utterly incomprehensible.

With regard to our "Northers" they are shallow depressions in which the intensity of action both of wind and rain is quite out of keeping with their small gradients; and *some* of the "Northers" of Colon are of the same class, as they have passed us rapidly on their way to the Isthmus.

So far we have had but little experience of an intermediate class between Cyclones and depressions; we have had one example however, and it occurred on the 27th June, 1886. A full account of this "rotatory gale" was given in *Weather Report* No. 67, and we need here only remark that the fall at the centre was about two tenths of an inch, that the centre moved rapidly from the east to the west end of the Island, that the wind did considerable damage, and was accidentally the cause of the loss of life.

What was said above about Cyclones generating secondaries is also true respecting Cyclones and these shallow depressions; for a Cyclone generating far to the E.N.E. of us often sets loose, as it were, a number of depressions which travel along the Gulf Stream south of Jamaica.

COMMENCEMENT OF THE CUBA CYCLONE, Oct., 1887.

The following notes chiefly refer to observations made by the writer at the Kempshot Observatory, which is about 5½ miles S.E. of Montego Bay, well exposed, 1773 feet above the level of the sea, and near the scene of action. The notes contain all the observations made and entered at the time with pencil in a suitably printed note-book. To prevent confusion but little reference is made to the Kingston register; Kingston was much further away, and is not well situated for any such observations.

On the 1st and 2nd of Oct the barometer in Jamaica was at its average height for the time of year; on the 3rd it rose about 0.03 in. above the average both at Kingston and at Kempshot; on the 4th it fell again to the average, the readings at 7 a.m. * being 29.940 at both places; the weather during these days was fine, as usual.

On the 5th at 7 a.m. the bar. at Kempshot had fallen to 29.893; wind E, 4 miles an hour † clouds, 10 cirro-stratus moving from E N E.; and there were indications of Cyclonic action. ‡ At 5 p.m., bar. 29.886; calm; 5 cirro-stratus from S.W.

Now as the bar. slightly rose next day it is evident that a small depression passed over Kempshot on the 5th, moving slowly to the north-west. This depression we shall call A.

At Kingston the bar was 29,902 at 7 a m., and it was falling slowly before another depression which was advancing, and which we shall call B. It was a cloudy day in Kingston, but there was no rain; and B passed Kingston some time in the afternoon.

On the 6th at 7 a.m. the bar. at Kempshot was 29.909; wind E, 4 miles; 5 cirro-stratus N, slow; 2 cumulo-stratus SE; indications of Cyclonic action.

As the bar. in Kingston was now rising, it appears that B must have been somewhere between Kingston and Kempshot, that neither the wind nor the lower cloud-drift was affected by these depressions, and that the upper cloud-drift was influenced by B rather than A, which could not have passed far away, or it would not have been able to reduce the cloud-drift to "slow."

Heavy rains fell over Jamaica this day. No afternoon observations were made at Kempshot.

On the 7th at 7 a.m. the bar. at Kempshot was 29.920; calm; 10 cirro-stratus S. Consequently B had passed to the west of Kempshot. At 2 p.m. drizzling rain set in; and at 5 p m. the bar. had fallen to 29.906, wind S, 10 miles an hour; 10 stratus and nimbus.

This increased action was most remarkable; and the weather was now carefully watched.

As far as we can judge, A remained near the west end of Jamaica until it was joined by B, and their junction immediately increased the Cyclonic action; and this opinion is confirmed by the fact that B, or A and B, remained near the west end of Jamaica until joined by the next depression which we shall call C.

In Kingston the bar. was falling to C as it approached; and heavy rains fell on the 7th over the whole of Jamaica.

On the 8th at 7 a m. the bar. at Kempshot was 29.878; wind E, 4 miles; 10 cirro stratus S; indications of Cyclonic action The wind was checked by A and B on the west and by C on the east, but the upper cloud-drift was chiefly influenced by A and B; and as C was near Kingston, A and B could not have been far away.

At 1 p.m. a remarkable squall passed over the western half of Jamaica; the bar. rose, the wind from the S. got up to 50 miles an hour, and then the squall subsided.

At 5 p m. the bar. at Kempshot was 29.878; wind S.S.E., 10 miles; 10 stratus.

Now as C did not pass Kingston until about 7 p.m, this wind shews that A and B were still near Kempshot and that their action was still increasing. A good deal of rain fell this day over Jamaica.

On the 9th at 7 a.m. the bar. at Kempshot was 29,852 wind E.S.E. 13 miles; 1 cirrus S.E.; indications of Cyclonic action. At this time C was passing to the south of Kempshot, and if we compound the easterly wind due to C, and the southerly wind due to A and B, we get the E.S.E. or the S.E., motion observed. No observations were made in the afternoon.

* Corrected for instrumental error, reduced to 32. F and sea-level, and further corrected for diurnal variation.

† This was the normal direction and velocity.

‡ These indications are more easily seen than described; when strongly marked, a little cumulo-stratus hangs in wreaths about the tops of the mountain ranges and produces a most unusual appearance.

On the 10th at 7 a.m. the bar. at Kempshot was 29.888; wind S, 10 miles; 10 cirro stratus S S E.; indications of Cyclonic action; general rains.

Now if we look at the *Pilot Chart* for November, 1887, we see that at this time, 7 a m. Kingston time or noon Greenwich time, the centre of the Cyclone was 390 nautical miles NW. of Kempshot; and that the Cyclone moved rapidly away.

Consequently the combined Cyclone A and B must have waited until it was joined by C some time during the evening of the 9th; and then the fully developed Cyclone proceeded on its course so that it was 190 nautical miles from Kempshot at 7 a,m. the following morning.

As this Cyclone passed away to the N, it drew after it our winds and cloud-drift, which were S on the 10th, 11th and 12th.

But another Cyclone D, now made its appearance; it passed far south of Jamaica on the 12th, keeping down the barometer, and confusing the indications. According to the *Pilot Chart* it advanced into the Gulf, taking a westerly direction so as to avoid as much as possible the course taken by the previous Cyclone; and when it reached the western shores of the Gulf, it turned sharply on its course, passed over New Orleans and swept the shores of the Gulf and the whole of the eastern shores of the United States.

Now while all this was going on at one end of the West Indies, a Cyclone generated at the other end. On the 7th 8th and 9th Oct, the S.S. "Maroon" Captain Spray, encountered a very formidable Cyclone in about lat. 23° N., long. 50° W.; and according to what has been already said, some or all of those depressions which passed near Jamaica seem to have been let loose by the general disturbance which generated the "Maroon" Cyclone.

The intensity of cyclonic action throughout the West Indies was therefore very strongly marked during the first half of October 1887; indeed about a week after the "Maroon" Cyclone, the R. M. S S. "Moselle," Captain A. Gillies, encountered another very near the same place but a little further to the eastward; and for aught we know to the contrary, there may have been others wholly unrecorded.

Returning to the Cuba Cyclone of Oct. 10th, it appears that it was formed by the combination of three small depressions, and that there was a marked increase in Cyclonic action after each combination; yet it does not follow that all Cyclones are formed in this way; our attention should be attracted more by the *increased action* than by the mere fact of combination; for where a depression moves on its course and meets with favourable circumstances, such as pressure inclined to give way and rain to fall, the action would similarly be increased, and a Cyclone would soon be developed.

In conclusion it may be as well to add that some simple mathematical rules have lately been brought to bear upon depressions advancing towards Jamaica, which promise to be of great value in distinguishing between small depressions close at hand and Cyclones at a distance; that such aid is desirable there can be no doubt from what has been written above; but experience alone can prove the utility of the method at present adopted.

MAXWELL HALL.

Kempshot Observatory, Jamaica,
Sept. 7th, 1888.

JAMAICA. OCTOBER 30, 1888. No. 98.

WEATHER REPORT

FOR THE MONTH OF

SEPTEMBER, 1888.

Published by Authority.

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1888.

METEOROLOGICAL RESULTS FOR SEPTEMBER, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	29.942	29 884	78.0	85.3	72.9	75.7	0.810	0.888	84	73
King's House ...	400	29.65	29.59	75.3	83.8	71.7	79.8	0.777	1.016	89	88
Castleton Gardens ...	580	29.54	26.52	72.7	82.7	70.8	73.0	0.754	0.812	94	73
Cinchona Plantation ...	4,907	...	...	63.6	66.3	57.7	63.8	0.477	0.592	81	92

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	90.1	73.2	16.9	S.E.	46.0	93.3	16	70.6	5	22.7	6.67
King's House ...	84.1	67.9	16.2	...	...	87	30	65	27	22	8.32
Castleton Gardens ...	87.0	76.3	16.7	...	...	91	9	66	4	25	4 39
Cinchona Plantation ...	70.2	60.3	9.9	...	39	76	7	57	26	19	5.19

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35.00	Light mist. Fine and clear to South.	B. S. G.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	September.	
	1888.	Average.
Infantile diseases not otherwise specified ...	7	11
Lung diseases ...	12	13
Fever ...	9	5
Dysentery and Diarrhœa	2	2
Various ...	33	39
Total	63	70

Rainfall for September, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where guages have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		September.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	11.99	7.64
Quaw Hill	...	18.00	...
Hordley	...	19.05	12.78
Elmwood (Long Bay)	Portland	17.48	...
Boston	...	...	...
Port Antonio	...	12.88	...

North-Eastern Division, *contd.*		September.	
		1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	...	13.21
New Haven Gap	...	...	..
Newton	...	4.75	...
Stony Hill Reformatory	...	13.16	10.26
Castleton Gardens	St. Mary	4.39	11.22
Dover	...	0.60	...
Quebec	...	1.74	...
Richmond	...	3.68	...
Port Maria	...	3.19	...
New Ramble	...	...	5.88
Gayle	...	6.43	...
Goshen	...	...	...
Rio Hoe	St. Ann	11.53	6.51
Unity Valley	...	10.19	7.62
Moneague	...	8.95	...
Albion	...	10.12	6.36
Averham Park	...	5.93	...
Bradfield	...	...	6.19
Drax Hall	...	5.49	4.21
Seville	...	...	4.22
Llandovery	...	...	4.70
Richmond Estate	...	3.02	5.69
	Means	9.88	8.03

Northern Division.		September.	
		1888.	Average.
		In.	In.
Lillyfield	St. Ann	...	...
Home Castle	...	6.16	...
Richmond Pen	...	11.25	...
Colchis Pen	Trelawny	3.32	...
Mahogany Hall	...	5.87	...
Braco	...	3.40	4.55
Arcadia	...	4.92	...
Harmony Hall	...	3.20	4.61
Lancaster	...	3.55	4.80
Vale Royal	...	5.61	4.98
Hyde	...	5.29	7.03
Georgia	...	...	4.08
Steelfield	...	6.15	4.51
Oxford	...	3.40	..
Cambridge	...	2.50	4.56
Dry Valley	...	3.10	...
Lottery	...	2.65	4.77
Falmouth	...	2.71	3.29
Holland Pen	...	2.77	...
Golden Grove	...	3.60	6.90
Pembroke	...	...	5.72
Green Park	...	...	...
Phœnix	...	9.42	...
Tilston	...	5.35	4.26
Orange Valley	...	4.38	2.73
Kent	...	6.13	4.49
Dundee	...	5.52	3.98
Weston Favel	...	9.00	...
Gale's Valley	...	8.90	5.73
Greenwood	St. James	6.22	...
Bellfield	...	7.65	...
Guilsbro'	...	9.85	...
Spring Vale	...	12.23	9.72
Cinnamon Hall	...	7.64	...
Rose Hall	...	7.76	...
Running Gut	...	7.40	3.66
Leogan	...	...	...
Ironshore	...	3.15	4.75

Northern Division, *contd.*		September.	
		1888.	Average.
Providence	St. James	2.34	...
Montego Bay (Market)	...	5.67	...
Catherine Hall	...	6.25	7.77
Catherine Mount	...	5.70	6.10
Fairfield	...	6.19	...
	Means	5.18	5.16

West Central Division.		September.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	...	...
Cave Valley	St. Ann	14.03	7.36
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	7.67	11.55
Windsor Pen	Trelawny	6.31	...
Maroon Town	St. James	...	...
Kepp	St. Elizabeth	10.36	11.91
Mount Edgecombe	Westmoreland	6.75	9.43
Windsor Forest	...	12.81	...
Woodstock	...	12.31	...
Struie	...	10.05	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	6.58	...
Copse	...	5.65	10.79
Haughton Grove	...	...	...
Kempshot	St. James	9.68	...
Anchovy	...	9.05	7.79
Wiltshire	...	7.73	8.65
Eden	...	8.21	...
Round Hill	Hanover	4.40	5.37
Cacoon Castle	...	12.25	9.32
Golden Grove	...	13.40	...
Great Valley Pen	...	...	...
Tryall	...	2.24	4.67
Sweet River	Westmoreland	7.90	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	8.13	6.93
Kew	Hanover	9.26	...
Fontabelle	Westmoreland	12.16	...
Belle Isle	...	12.05	...
King's Valley	...	14.72	...
Haughton Court	Hanover	...	...
Orange Cove	...	8.28	8.19
Abingdon	...	7.90	...
	Means	8.04	8.50

Southern Division.		September.	
		1888.	Average.
Albion Hospital	St. Thomas	7.35	...
The Abbey	...	11.75	...
Halberstadt	St. Andrew	10.53	...
Middleton	...	...	...
Woodford	...	10.32	...
Hope Plantation	...	9.34	...
Cherry Garden	...	10.13	...
Constant Spring	...	11.20	...
King's House	...	...	...
Monaltrie	...	7.83	7.20
Public Works Office	Kingston	6.56	5.03

Southern Division, *contd.*		September. 1888.	Average.
		In.	In.
Franklyn Town	Kingston	7.38	...
Elletson Road	...	6.67	...
Plumb Point L. H.	...	6.44	4.30
Spanish Town	St. Catherine	10.44	...
Windsor Park	...	8.95	...
Hog Hole Pen	...	9.20	...
Headworks, R. C. C.	St. Catherine	8.39	...
Old Harbour	...	14.41	...
Springfield	Clarendon	11.76	...
Farm Plantation	Manchester	9.68	7.65
Stone's Hope	...	...	...
Brokenhurst Plant.	...	14.77	...
Pepper	St. Elizabeth	...	...
Long Hill	...	10.68	9.20
Potsdam	...	14.05	...
Gilnock Hall	St. Elizabeth	10.89	...
Santa Cruz (Poor House)	...	8.12	...
Black River	...	4.60	5.07
Bloomsbury	...	...	...
	Means	7.63	6.41

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 5.72 and 6.44 inches.

Comparative Table.

(*Based upon the "Average" Stations only.*)

		September. 1888.	Average.
		In.	In.
North Eastern Division		9.88	8.03
Northern	"	5.18	5.16
West Central	"	8.04	8.50
Southern	"	7.63	6.41
	The Island	7.68	7.02

The largest fall, namely, 19.05 inches, was recorded at Hordley in St. Thomas; the smallest, 0.60 inches, was recorded at Dover in St. Mary.

Mr. J. Watson-Taylor reports that in the Plantain Garden River District the rains on the 21st, 22nd, 23rd, 25th and 26th September brought the Plantain Garden River down in flood.

THE GREAT CUBAN CYCLONE, Sept. 4th, 1888.

The following remarks are taken from the *Pilot Chart** for October, 1888:—

"The first indications of this disturbance were noted in the N.E. trade-wind belt, east of the 60th meridian, on the 30th and 31st of August, when squally weather, a steadily increasing sea from E.S.E., and the rapid formation of cirrus and stratus clouds, with much lightning to the eastward, showed the approach of a hurricane from that direction. On the later date the wind veered to the N., rapidly increasing in force, and, on the 1st of Sept. the hurricane, now fully developed, was central near latitude 20° N., longitude 60° W., moving on a W. by N. course at the rate of about 16 miles per hour.

The hurricane reached the vicinity of the Windward channel on the 3rd of Sept., and at noon (Greenwich mean time) of that day was central about 25 miles south of Fortune Island. During the same night the centre reached the Cuban coast, and moved inland close to Sagua la Grande, spreading devastation by wind and flood on every side. In the harbour of Sagua great damage was done to shipping; a number of vessels was driven ashore, and others, including a Spanish gunboat, foundered at their anchorages. In and around the city, houses were unroofed, or demolished altogether, and many lives were lost. The maximum energy seems to have been developed here.

After leaving Sagua it appears to have moved due west, and during the 4th and forenoon of the 5th it swept furiously across the Island, passing south of Havana. After passing the longitude of Havana a most remarkable feature was developed, in the shape of a change of direction to the *south of west*; and at noon on the 5th, when leaving the Cuban coast, the centre was moving nearly W.S.W., skirting the northern coast of Yucatan, and reaching Mexico, near Vera Cruz, on the 7th, where it did great damage to the shipping in the harbour.

The unexpected change of course was the most remarkable peculiarity of this unique storm. As is well known, the West Indian hurricanes move along a path inclined slightly to the N. of W., increasing this northing gradually until the vertex is reached, when the change of direction is more rapid and the velocity of translation much less until the curve is completed. This hurricane shows an exception to this law, the violation of which may be due to the fact that on the 6th and 7th another well-defined cyclonic storm was central over the Bahamas and at the same time an area of very high barometer prevailed over the Middle Atlantic States. . . . A reliable though not detailed report has reached this Office, stating that a shallow depression passed westward over Jamaica on the 3rd, and, as adjacent depressions moving in the same direction sometimes have a tendency to converge, this minor depression might be still another influence tending, in conjunction with the area of high barometer to the northward, to cause the change of direction which was such a marked feature."

This Cyclone issued from the northern limit of the equatorial heavy rains exactly as described in the last Weather Report: it was encountered by the S.S. "Jamaican," Capt. Edwards, about 150 miles N.E. of Sombrero on Aug. 31st, and the centre passed south of the vessel on its westerly course at about 6 p.m., local time, or 10 p.m., Greenwich time, although the *Chart* indicates that the centre did not arrive there till noon Sept. 1st, Greenwich time.

But there was another Cyclone in existence at the same time about 300 miles west of the former; according to a telegram received in Jamaica, the S.S. 'Camarata" encountered a storm on Aug. 31st in lat. 19° 19′ N., long. 66° 26′ W., which carried away the main topmast, and binnacle, broke the cabin skylights, and washed over board a portion of the deck cargo. We have no further information of this Cyclone, and it is not alluded to in the *Pilot Chart*; possibly the two combined to form the great Cyclone, the subject of this notice.

This Cyclone passed over Turk's Islands on the 2nd September, and the following information concerning it has been obtained from official reports of the Acting Commissioner of the Turks and Caicos Islands, Mr. E. H. Johnson.

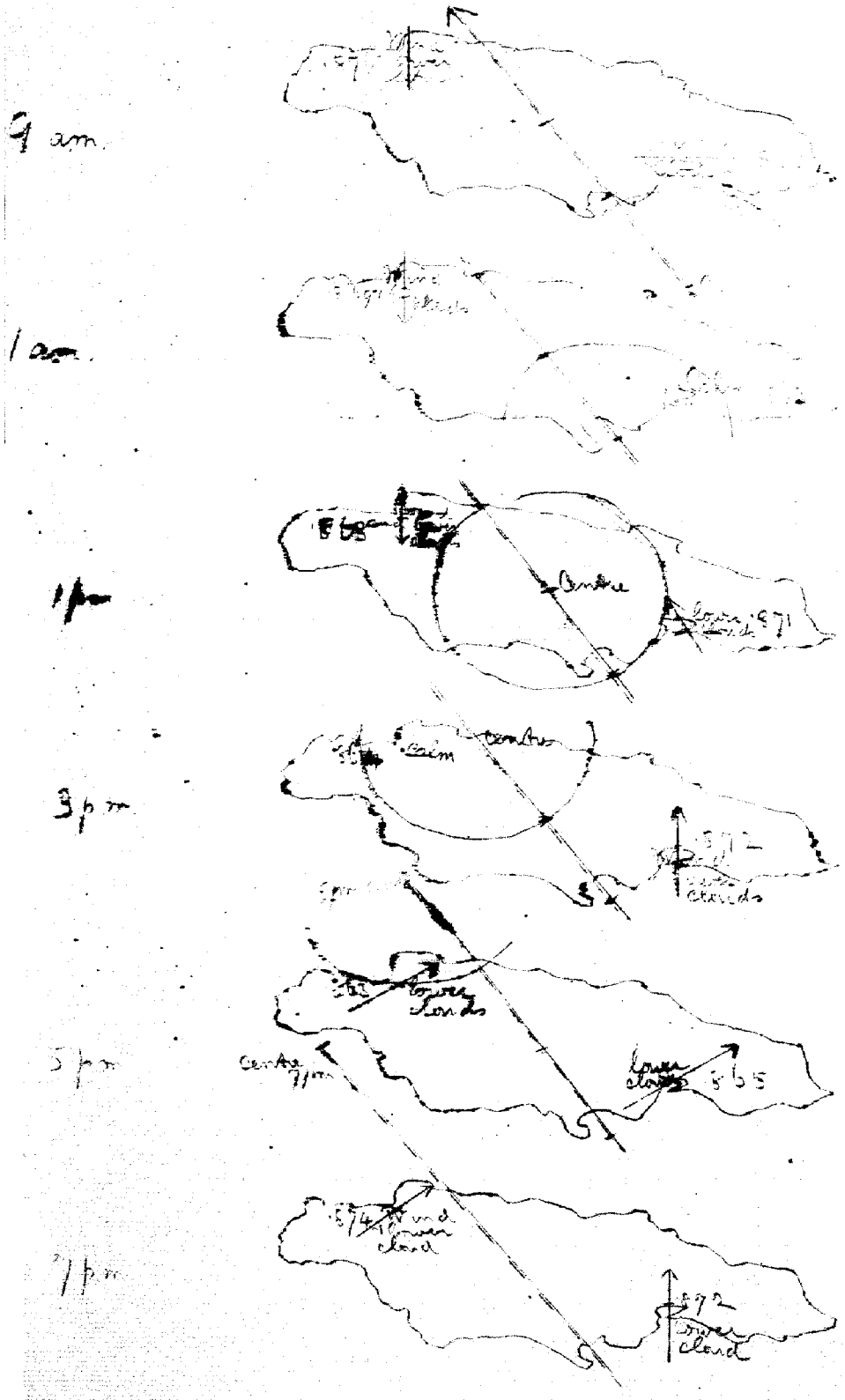
Mr. Johnson reports that the Cyclone commenced about eight in the morning and lasted for about seven or eight hours, terminating about 4 p.m., and that the damage done was considerable, most of the houses of the principal people in Grand Turk as well as the habitations of the labouring classes having had portions of them torn away and a number of the houses of the labouring and poorer classes having been blown down entirely.

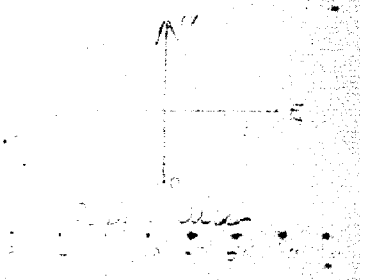
The following is a copy of the weather report furnished to the Acting Commissioner by two of the residents of Grand Turk. It is published just as it came to hand and it is not known what, if any, corrections have been applied to the actual readings.

* Published by the Hydrographic Office, Washington.

JAMAICA

Depression 1888 Sept 3rd





Uniform velocity of 15 miles per hour

HURRICANE WEATHER REPORT.
Grand Turk, Turks Islands,
Sunday 2nd September, 1888.

Readings from	Barometer of Mr. J. T. Hutchings.	Aneroid of Mr. A. G. Wynns.	
	In.		In.
7 a.m. Wind N.E.	29.90		
8 " " "	29 78	8 a.m.	29.90
9 " " "	29.65	9 "	29.84
9.45 " "	29 60	10 "	29 77
10·45 " "	29.53	10.30	29.70
11.10 " "	29.45	11	29.58
11.30 " "	29.20	11.13	29.50
11.45 " "	29.08	11.20	29.14
12 noon—Height of Gale	28.95	12 noon	28.50
12.40 Wind S.E.	29.15	12.25	29.00
1 p.m. " "	29.19	1 p.m.	29 12
1.30 " "	29.28	2 "	29 30
2 " "	29.33	3 "	29 40
2.30 " "	29.40	4 "	29.50
3 " "	29.46		
4.40 " "	29.60		
5 45 " "	29.66		
7 " "	29.70		
8 " "	29.75		

There was a comparative lull from 12 to 1 o'clock; considerable rain fell.

The above Weather Report was handed to me by Mr. Hutchings and Mr. Wynns.

(Sgd.) E. H. JOHNSON,
Acting Commissioner.

From this it appears that the centre passed close to and a little South of Grand Turk shortly after noon (local time) on Sunday the 2nd September or a little before 5 p.m. 2nd September, Greenwich time, although the *Chart* indicates that the centre did not pass till about 1 a.m., September 3rd, Greenwich time.

In Jamaica the fall of the barometer was not as sudden as usual; but from the following readings it will be seen that the drop was quite sufficient to attract attention :—

KINGSTON, JAMAICA.

1888. Local time.	Barometer Cor. & reduced to 32° & sea-level.	Further cor. for Diur. Var.	Mean.
	In.	In.	In.
Sept. 1st 7 a.m.	29.966	29.952	
" 3 p.m.	.911	.949	29.944
" 11 p.m.	.957	.932	
2nd 7 a.m.	.911	.897	
" 9 a.m.	.941	.901	
" 11 a.m.	.925	.891	
" 1 p.m.	.898	.902	29.902
" 3 p.m.	.867	.905	
" 5 p.m.	.866	.908	
" 9 p.m.	29.923	29.909	

It will be noticed how remarkably steady the barometer remained on the 2nd, thereby helping to point out the drop of less than half a tenth, which occurred between the 1st and the 2nd, when the Cyclone was 600 or 700 nautical miles from Jamaica. As yet the upper cloud-drift was apparently unaffected at the Kempshot Observatory, so that it was impossible to say on the 2nd where the disturbance lay.

But on the morning of the 3rd the upper drift was steadily from the W., which placed the disturbance north of Jamaica, while the lower drift and the surface wind showed that Jamaica was threatened from the eastward. Telegrams between Kingston and Kempshot were rapidly exchanged, when it was found that a very shallow depression was then passing over Jamaica, and that there was no cause for alarm.

This was one of our usual depressions, but as the circumstances under which it occurred render it important, we give all the details in the following table where P is the reading of the barometer corrected for instrumental error, reduced to 32° and the sea-level, and further corrected for the diurnal variation, and where the velocity of the wind is given in miles per hour :—

Local Time. 3rd Sep., 1888.	KINGSTON. P	Wind.	Upper Clouds.	Lower Clouds.	KEMPSHOT. P	Wind.	Upper Clouds.	Lower Clouds.
7 a.m.	29.874	Z.	2 Cir. s. E.	None	29.898	N. 4	5 Cir. s. W.	5 Cum. s. N.
9 "	.866	Z.	5 Cir. E.	None.	.876	N. 4	1 Cir. W.	do.
11 "	.862	...	...	None.	.869	N. 4	1 Cir. ?	do.
1 p.m.	.871	...	...	Cum. S.E.	.868	N. 4	1 Cir. W.	4 Cum. s. N.N.W.
3 "	.872	S. 2	5 Cir. s.	4 str. S.	.864	Z. 0	1 Cir. W.	1 Cum. Z
5 "	.865	...	Cir. s. S.W.	Cum. W.S.W.	.863	N.W. 4	None.	1 Cum. s. W.S.W.
7 "	.872	Z.		Cum. s. S.	.874	S.W. 1	None.	1 Str. S.W.

From the rough Chart attached to this report it will be noticed how the wind and lower cloud-drift *veered* at Kingston and *backed* at Kempshot as the large calm area passed between the two places on its N.W. course at the rate of 15 miles per hour.

This velocity and course would have carried the depression to Sagua in Cuba some time next day. On the 4th we heard that the wires were down in Cuba; the next telegram published in Jamaica was the following : "Santiago, Sept. 6th—Cienfuegos reports that no serious damage done there by recent storm. Advices from Havana state that the vortex, according to telegrams received, passed to the N. of Gibara and probably crossed the Island at Sagua and passed a short distance S. of Havana. No damage of any consequence reported."

And therefore we assumed in Jamaica that the depression which crossed on the 3rd developed sufficiently to do some slight damage in Cuba, and that the northern Cyclone had pursued the usual course.

As described above, the circumstances were totally different; the great Cyclone swept along the western half of Cuba on the 4th and 5th, causing incalculable destruction of property and the loss of at least one thousand lives!

In many ways the circumstances connected with the great Cuban Cyclone afford good examples of the results detailed in the last Weather Report respecting Cyclones in the West Indies, always excepting the unusual course pursued after reaching Havana, which took the Cyclone from Havana to Vera Cruz, where it collapsed.

But the cyclonic energy was maintained by the Cyclone which developed East of the Bahama Islands on Sept. 6th,* which swept along the shores of the United States, and vanished half way between Newfoundland and Ireland.

* Thus confirming the Daily Weather Report for the 6th September, where it was pointed out that a fresh depression was "apparently to the North Eastward."

The last depression to which we must refer occurred between Sept. 20th and 24th and the effect was similar to what would be produced by a Cyclone originating about Cayman Brac, or between that Island and Jamaica; but, beyond the fact that the Pilot Chart refers to another hurricane having occurred in the West Indies on the 22nd, 23rd and 24th, concerning which too few data had been received to enable its track to be followed with any accuracy, nothing further has yet been heard of this depression, and it is sufficient to say that the symptoms culminated between 1 and 2 a.m. on Sunday morning, Sept. 24th, with gale at Kempshot from the S. of 60 miles an hour, when the bar. (cor. &c.) read as low as 29.840, and the wind was driving before it clouds and squalls of rain.

MAXWELL HALL.

Kempshot, Oct. 20th, 1888.

P.S.—It is requested that until further notice all Rainfall Returns be addressed to Mr. Robert Johnstone, Kingston P.O.

M. H.

JAMAICA. NOVEMBER 22, 1888. No. 99.

WEATHER REPORT

FOR THE MONTH OF

OCTOBER, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR OCTOBER, 1888.

Station.	Elevation.	Means for the Month. Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	29.962	29.901	77.6	86.2	72.5	74.3	0.799	0.848	85	68
King's House* ...	400	29.67	29.62	74 2	83.6	70.0	79.1	0.733	0.994	88	86
Castleton Gardens ...	580	29.58	29.54	71.3	80.7	67.8	71.6	0.680	0.774	89	74
Cinchona Plantation ...	4,907	...	...	...	...	...	...	...	...	...	...

Station.	Means for the Month. Temperature.			Wind.		Extremes for the Month. Temperature.					Total Rainfall.
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	90.8	71.6	19.2	Var.	48.6	94.4	21	64 7	26	29.7	1.83
King's House ...	83.2	66.9	16.3	...	...	85	1†	65	7*	20	2.08
Castleton Gardens ...	83 9	70.9	13 0	...	...	87 5	23	60	8	27 5	15 45
Cinchona Plantation ...	...	...	...	...	...	...	...	...	...	...	...

† Also on 5, 14, 22 and 25. * Also 20, 27 and 29.

Note—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

* Readings uncorrected

Day.	Hour.	Temperature. Max.	Min.	Temp.	Rain.	Remarks.	Observer's Initials.
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.59	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35.00	Light mist. Fine and clear to South	B. S. G.
May 27th	1.30 p.m.	70	47	63	50.70	Calm, cloudy, very wet.	B. S. G.
June 30th	1.30 p.m.	71	45	64	17.55	Calm, light rain.	B. S. H.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	October. 1888.	Average.
Infantile diseases not otherwise specified ...	6	13
Lung diseases ...	13	12
Fever ...	11	5
Dysentery and Diarrhœa	6	3
Various ...	42	46
Total	78	79

Rainfall for October, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report: the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		October. 1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	4.15	13.40
Quaw Hill		3.56	...
Hordley ...		7.20	14.55
Elmwood (Long Bay)	Portland	8.98	...
Boston ...		...	...
Port Antonio ...		5.91	...

North-Eastern Division, *contd.*		October.	
		1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew		20.58
New Haven Gap	...	...	..
Newton	...	2.50	...
Stony Hill Reformatory	...	7.56	15.60
Castleton Gardens	St. Mary	15.45	12.49
Dover	...	6.10	...
Quebec	...	7.31	...
Richmond	...	1.16	...
Port Maria	...	5.28	...
New Ramble	...	...	7.08
Gayle	...	2.20	13.98
Goshen	...	...	...
Rio Hoe	St. Ann	1.44	13.07
Unity Valley	...	3.65	7.85
Moneague	...	2.53	...
Albion	...	3.04	7.88
Averham Park	...	2.58	...
Bradfield	...	2.57	7.67
Drax Hall	...	1.79	7.30
Seville		1.00	6.86
Llandovery	...	2.85	8.17
Richmond Estate	...	1.98	9.28
	Means	4.22	10.62

Northern Division.		October.	
		1888.	Average.
		In.	In.
Liffyfield	St. Ann	...	9.76
Home Castle	...	3.68	...
Richmond Pen	...	1.85	...
Colchis Pen	Trelawny	1.36	...
Mahogany Hall	...	2.52	5.02
Braco	...	1.89	4.81
Arcadia	...	1.89	...
Harmony Hall	...	1.84	4.14
Lancaster	...	1.53	5.16
Vale Royal	...	1.39	5.91
Hyde	...	1.22	7.59
Georgia	...	...	5.29
Steelfield	...	1.55	5.98
Oxford	...	2.21	..
Cambridge	...	2.74	4.86
Dry Valley	...	1.75	...
Lottery	...	2.02	6.12
Falmouth	...	0.91	...
Holland Pen	...	0.37	...
Golden Grove	...	3.65	6.66
Pembroke	...	...	5.17
Green Park	...	...	5.95
Phœnix	...	6.05	...
Tilston	...	4.22	6.69
Orange Valley	...	1.25	5.31
Kent	...	1.40	5.65
Dundee	...	2.40	5.70
Weston Favel	...	5.20	...
Gale's Valley	...	5.73	7.43
Greenwood	St. James	1.32	...
Bellfield	...	2.70	...
Guilsbro'	...	3.19	...
Spring Vale	...	...	8.62
Cinnamon Hall	...	...	...
Rose Hall	...	..	...
Running Gut	...	...	5.63
Leogan	...	1.73	...
Ironshore	...	3.28	5.25

Northern Division, *contd.*		October.	
		1888.	Average.
Providence	St. James	2.24	...
Montego Bay (Market)	...	...	...
Catherine Hall	...	5.72	6.73
Catherine Mount	...	4.41	7.67
Fairfield	...	4.67	...
	Means	2.71	5.93

West Central Division.		October.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	4.04	9.16
Cave Valley	St. Ann	3.81	10.41
Mandeville	Manchester	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	7.14	12.10
Windsor Pen	Trelawny	4.24	...
Maroon Town	St. James	10.87	...
Kepp	St. Elizabeth	8.88	11.30
Mount Edgecombe	Westmoreland	8.34	8.93
Windsor Forest	...	...	...
Woodstock	...	8.10	...
Struie	...	4.30	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	6.78	...
Copse	...	5.65	10.94
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	2.82	7.13
Wiltshire	...	2.13	7.90
Eden	...	3.15	...
Round Hill	Hanover	3.10	6.45
Cacoon Castle	...	4.59	8.11
Golden Grove	...	6.31	0.74
Great Valley Pen	...	...	...
Flint River	...	1.08	...
Tryall	...	1.48	6.85
Sweet River	Westmoreland	6.19	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	5.78	8.42
Kew	Hanover	8.19	...
Fontabelle	Westmoreland	...	...
Belle Isle	...	5.60	...
King's Valley	...	8.41	...
Haughton Court	Hanover	...	...
Orange Cove	...	5.72	9.06
Abingdon	...	5.42	...
	Means	4.88	8.90

Southern Division.		October.	
		1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	4.11	...
The Abbey	...	7.42	...
Halberstadt	St. Andrew	5.84	..
Middleton	...	2.87	...
Woodford	...	7.27	...
Hope Plantation	...	3.40	...
Hope Reservoirs	...	2.29	9.56
Cherry Garden	...	5.16	...
Constant Spring	...	5.41	...
King's House	...	2.08	12.19
Monaltrie	...	3.87	11.64
Public Works Office	Kingston	1.79	10.28

Southern Division, *contd.*		October.	
		1888.	Average.
		In.	In.
Franklyn Town	Kingston	...	...
Elletson Road	...	1.83	...
Plumb Point L. H.	...	1.40	9.96
Spanish Town	St. Catherine	3.72	8.52
Windsor Park	...	...	...
Hog Hole Pen	...	6.36	8.09
Headworks, R. C. C.	...	5.52	10.24
Old Harbour	...	12.32	...
Springfield	Clarendon	3.32	...
Farm Plantation	Manchester	6.67	14.32
Stone's Hope	...	4.90	...
Brokenhurst Plant.	...	6.65	...
Pepper	St. Elizabeth	...	10.07
Long Hill	...	5.65	8.85
Potsdam	...	4.15	...
Gilnock Hall	...	5.64	..
Santa Cruz (Poor House)	...	...	...
Black River	...	6.23	9.32
Bloomsbury	...	...	...
	Means	4.23	10.34

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 1.19 and 1.40 inches.

Comparative Table.
(*Based upon the "Average" Stations only.*)

	October.	
	1888.	Average.
	In.	In.
North Eastern Division	4.22	10.62
Northern "	2.71	5.93
West Central "	4.88	8.90
Southern "	4.23	10.34
The Island	4.01	8.95

The largest fall, namely, 15.45 inches, was recorded at Castleton Gardens; the smallest, 0.37 inches, was recorded at Holland Pen in Trelawny.

The October seasons were therefore generally deficient, only one half of the average quantity of rain having fallen.

Mr. A. D. Cadenhead writes as follows with regard a fall of hail at Arthur's Seat in the parish of St. Ann:—"On Saturday 20th (October) we had a heavy thunderstorm that lasted from 2 p.m. to 2.30 p.m., and along with the rain there was quite a shower of hail. The hailstones were round and flat like a button, a spiral form could be observed in them, as if they had been long shaped and then twisted round. I measured some and found as large as half an inch wide and quarter of an inch thick. Arthur's Seat is between St. Ann's Bay and Ocho Rios and two and a half miles from the sea and about 1,650 feet above it. The storm cloud followed the coast going westward and we were on the South edge of cloud."

I have also been informed that there was a fall of hail in Manchester near Spitzbergen during the afternoon of the 10th September.

Robt Johnstone.

Kingston 16th November, 1888.

Note—It is requested that all Rainfall and other Returns be sent to me until further notice.—R. J.

JAMAICA. DECEMBER 31, 1888. No. 100.

WEATHER REPORT

FOR THE MONTH OF

NOVEMBER, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1888.

METEOROLOGICAL RESULTS FOR NOVEMBER, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	29.961	29.896	74.7	85.8	69.4	72.1	0.718	0.788	84	64
King's House ...	400	29.67	29.62	72 6	83.0	67.0	73.3	0.661	0.963	83	86
Castleton Gardens ...	580	29.56	29.55	67 9	80 5	65.6	72.1	0.630	0.788	92	75
Cinchona Plantation ...	4,907	25.194	25.213	60.9	62.8	57.5	60.4	0.473	0.526	89	92

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	91.3	70.2	21.1	Var.	41.3	94 3	13*	63.7	27	30.6	0.07
King's House ...	82.4	65.8	16.6	...	...	90	23	62	20†	28	1.33
Castleton Gardens ...	84.2	66 9	17.3	...	...	87	6‡	62	22§	25	1.89
Cinchona Plantation ...	69 4	57.7	11.7	S.E.	24.3	72	6	48	24	24	7 94

* And 14. † And 21. ‡ And 8. § And on 4 other days.

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials.
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ...	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35.00	Light mist. Fine and clear to South.	B. S. G.
May 27th	1.30 p.m.	70	47	63	50.70	Calm, cloudy, very wet.	B. S. G.
June 30th	1.30 p.m.	71	45	64	17.55	Calm, light rain.	B. S. H.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	November.	
	1888.	Average.
Infantile diseases not otherwise specified ...	11	14
Lung diseases ...	18	14
Fever ...	15	8
Dysentery and Diarrhœa	10	3
Various ...	50	55
Total	104	94

Rainfall for November, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		November.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	4.39	8.72
Quaw Hill		5.10	...
Hordley	...	5.96	10.19
Elmwood (Long Bay)	Portland	6.50	...
Boston	...	...	...
Port Antonio	...	5.25	...

North-Eastern Division, *contd.*		November.	
		1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	7.94	13.66
New Haven Gap	...	...	..
Newton	...	2.06	...
Stony Hill Reformatory	...	3.30	8.65
Castleton Gardens	St. Mary	...	10.68
Dover	...	10.00	...
Quebec	...	8.24	...
Richmond	...	1.73	...
Port Maria	...	8.43	...
New Ramble	...	...	11.69
Gayle	...	5.05	...
Goshen	...	...	...
Rio Hoe	St. Ann	3.97	8.83
Unity Valley	...	6.83	7.59
Moneague	...	8.22	...
Albion	...	2.53	10.23
Averham Park	...	4.82	...
Bradfield	...	1.30	...
Drax Hall	...	5 02	11. 6
Seville	...	8.49	9.31
Llandovery	...	8.05	7.51
Richmond Estate	...	7.02	8.45
Southfield	...	9.13	...
	Means	5.68	9.47

Northern Division.		November.	
		1888.	Average.
		In.	In
Lillyfield	St. Ann	...	10.23
Home Castle	...	5.93	...
Richmond Pen	...	...	...
Colchis Pen	Trelawny	3.70	...
Mahogany Hall	...	6.92	4.19
Braco	...	4.29	6.13
Arcadia	...	5.40	...
Harmony Hall	...	3.93	..
Lancaster	...	3.95	6.76
Vale Royal	...	5.87	7.05
Hyde	...	6.08	7.52
Georgia	...	...	6.10
Steelfield	...	7.35	5.74
Oxford	...	5.18	..
Cambridge	...	6.94	4.64
Dry Valley	...	4.05	...
Lottery	...	6.78	4.93
Falmouth	...	5.10	...
Holland Pen	...	4.21	...
Golden Grove	...	4.70	5.71
Pembroke	...	...	5.29
Green Park	...	...	6.15
Phœnix	...	5.56	...
Tilston	...	3.77	5.04
Orange Valley	...	1.77	5.24
Kent	...	1.45	4.00
Dundee	...	4.63	7.50
Weston Favel	...	4.26	...
Gale's Valley	...	3.95	4.73
Greenwood	St. James	2.95	...
Bellfield	...	5.89	...
Guilsbro'	...	7.45	...
Spring Vale	...	...	5.03
Cinnamon Hall	...	...	...
Rose Hall	...	..	...
Running Gut	...	...	...
Leogan	...	4.03	...
Ironshore	...	3.08	3.20

Northern Division, *contd.*		November.	
		1888.	Average.
Providence	St. James	3.12	...
Montego Bay (Market)	...	1.80	...
Catherine Hall	...	2.00	3.40
Catherine Mount	...	1.84	4.16
Fairfield	...	2.91	...
	Means	4.43	5.29

West Central Division.		November.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	2.82	4.89
Cave Valley	St. Ann	2.35	5.26
Mandeville	Manchester	...	...
Derry	...	3.35	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	5.80	6.02
Windsor Pen	Trelawny	4.01	...
Maroon Town	St. James	1.60	...
Kepp	St. Elizabeth	8.95	5.93
Mount Edgecombe	Westmoreland	3.95	4.72
Windsor Forest	...	...	...
Woodstock	...	5.69	...
Struie	...	9.60	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	9.44	...
Copse	...	5.75	7.61
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	4.85	3.77
Wiltshire	...	5.27	5.58
Eden	...	6.55	...
Round Hill	Hanover	3.80	3.50
Cacoon Castle	...	...	5.89
Golden Grove	...	8.03	5.89
Great Valley Pen	...	...	...
Flint River	...	4.60	...
Tryall	...	3.61	3.64
Sweet River	Westmoreland	1 50	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	1.94	4.52
Kew	Hanover	6.94	...
Fontabelle	Westmoreland	3.20	...
Belle Isle	...	2.20	...
King's Valley	...	6.80	...
Haughton Court	Hanover	...	...
Orange Cove	...	6.45	...
Abingdon	...	8.68	...
	Means	4.76	5.11

Southern Division.		November.	
		1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.19	...
The Abbey	...	1.95	...
Halberstadt	St. Andrew	1.45	...
Middleton	...	...	...
Woodford	...	4.50	...
Hope Plantation	...	2.64	...
Hope Reservoirs	...	2.24	...
Cherry Garden	...	2.41	...
Constant Spring	...	3.99	...
Shortwood	...	3.92	...
King's House	...	1.33	2.44
Monaltrie	...	1.74	5.71
Public Works Office	Kingston	0.03	3.90

Southern Division, *contd.*		November, 1888.	Average.
		In.	In.
Franklyn Town	Kingston	...	...
Elletson Road	...	0.07	...
Plumb Point L. H.	...	0.11	3.50
Spanish Town	St. Catherine	2.65	2.56
Windsor Park	...	...	...
Hog Hole Pen	...	2.88	3.52
Headworks, R. C. C.	...	3.62	5.00
Old Harbour	...	5.48	...
Springfield	Clarendon	...	...
Farm Plantation	Manchester	2.45	5.40
Stone's Hope	...	...	...
Brokenhurst Pen	...	...	...
Pepper	St. Elizabeth	...	5.09
Long Hill	...	5.39	3.83
Potsdam	...	2.75	...
Gilnock Hall	...	...	...
Santa Cruz (Poor House)	...	6.30	...
Black River	...	3.60	5.43
Bloomsbury	...	...	...
	Means	2.38	4.13

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 0.09 and 0.11 inches.

Comparative Table.

(Based upon the "Average" Stations only.)

	November. 1888.	Average.
	In.	In.
North Eastern Division	5.68	9.47
Northern "	4.43	5.29
West Central "	4.76	5.11
Southern "	2.38	4.13
The Island	4.31	6.00

The largest fall, namely, 10.00 inches, was recorded at Dover, in St. Mary; the smallest, 0.03 inches, was recorded at the Public Works Office, in Kingston.

On the night of the 10th November an exceedingly brilliant meteor was seen. According to the "Gleaner" it was first seen to the South West of Kingston at about thirty degrees above the horizon and travelled Northward across the heavens. I saw it at about the same height just before it disappeared at 8.52 p.m. to the N. N. E. of Elletson Road. I was not looking out at the time but was reading and was attracted by a distinct bright white light apparently moving across the floor of the room and the piazza although both were well lighted by a good lamp; on going into the piazza I was just in time to see the last of it.* Exactly four minutes afterwards I heard a sound as of a distant explosion which was not quite so loud as the 9 o'clock gun at Port Royal heard in due time about four minutes later. This sound was heard by other people in Kingston, and Dr. Manners also reports that the meteor was seen at the Abbey in St David's District and that "shortly afterwards a "very loud report as of that of a very large gun" was heard.

A "Norther" commenced between 8 and 9 p.m. on the evening of the 24th, freshened during the night and on the morning of the 25th was blowing briskly; during the day the wind became lighter but at night it again freshened up; by next morning it had died away.

Robt Johnstone.

Kingston 21st December, 1888.

* It was by far the brightest meteor I have seen and so lit up the sky as to cause consternation amongst many of the negro population.

JAMAICA. FEBRUARY 12. 1889. No. 101.

WEATHER REPORT

FOR THE MONTH OF

DECEMBER, 1888.

Published by Authority.

JAMAICA:
GOVERNMENT PRINTING ESTABLISHMENT, 79 DUKE STREET, KINGSTON.
1889.

METEOROLOGICAL RESULTS FOR DECEMBER, 1888.

Station.	Elevation.	Means for the Month.									
		Pressure.		Temperature		Dew-point.		Vapour.		Humidity.	
		7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.	7 a.m.	3 p.m.
	ft.	in.	in.	°	°	°	°	in.	in.		
Kingston ...	60	30.007	29 950	72.6	84.6	68.0	71.4	0.684	0.769	86	65
King's House ...	400	29.68	29.67	71 1	84.8	67.5	74.9	0 673	0.865	88	72
Castleton Gardens ...	580	29.60	29 58	69 9	76 9	68.3	69 1	0 692	0.711	96	77
Cinchona Plantation ...	4,907	25.273	25.241	59 2	61.5	57.7	60.0	0,477	0.518	95	95

Station.	Means for the Month.					Extremes for the Month.					Total Rainfall.
	Temperature.			Wind.		Temperature.					
	Max.	Min.	Range.	From.	Miles daily.	Max.	Date.	Min.	Date.	Range.	
	°	°	°			°		°		°	inch.
Kingston ...	89.3	70.1	19.2	Var.	49.9	93 5	3	66.1	15	27.4	1.11
King's House ...	80.5	64.3	16.2	...	...	87	11	58	24	29	1.92
Castleton Gardens ...	79.5	69 0	10.5	...	...	85	3	60	1	25	21.88
Cinchona Plantation ...	67.9	57.1	10 8	S. E.	...	71	29*	49	21	22	13 56

*And 31

NOTE—The Barometric pressure is the reading of the Barometer corrected for instrumental error and reduced to 32°, that of Kingston being further reduced to the Sea-level. The Thermometers are similarly exposed at all the above Stations; their readings have all been corrected.

BLUE MOUNTAIN PEAK.

Day.	Hour.	Temperature.		Temp.	Rain.	Remarks.	Observer's Initials
		Max.	Min.				
1888.		°	°	°	in.		
January 29th ...	2.15 p.m.	73.1	40.2	62.1	8.50	Fine, but cloudy.	H. C. M.
March 3rd ...	2.30 p.m.	72.6	36.2	56.1	25.62	Cloudy and calm.	B. S. G.
March 30th ...	3.30 p.m.	73.6	42.7	57.1	3.95	Bright and clear, not sunny.	B. S. G.
April 14th ..	8 a.m.	68.1	43.2	52.1	0.81	Fine—Clear to South.	B. S. G.
May 6th ...	3.50 p.m.	68.1	36.2*	61.1	35.00	Light mist. Fine and clear to South.	B. S. G.
May 27th	1.30 p.m.	70	47	63	50.70	Calm, cloudy, very wet.	B. S. G.
June 30th	1.30 p.m.	71	45	64	17.55	Calm, light rain.	B. S. H.

* On the grass.

The Health of Kingston.

The following Table shows the number of deaths in Kingston during the month from a few groups of diseases, compared with the average number for the month for a few years past:—

	December.	
	1888.	Average.
Infantile diseases not otherwise specified ...	12	17
Lung diseases ...	12	14
Fever ...	4	10
Dysentery and Diarrhœa	5	5
Various ...	43	55
Total	76	101

Rainfall for December, 1888.

The first columns contain all the Rainfall Returns sent in for publication up to the date of this report; the second columns contain the corresponding average Rainfall according to the Tables published in October, 1883, as Nos. 31 and 33 of the present series of Reports, and to an unpublished Supplementary Table of the average Rainfall at certain places where gauges have been registered for at least five years. In obtaining the mean Rainfall for the month from the numbers in the first columns, only those Stations are considered for which the average Rainfall has been given in the second columns; so that the results of these two columns are directly comparable. These results are more clearly shown in the Comparative Table at the end of these Rainfall Returns:—

North-Eastern Division.		December.	
		1888.	Average.
		In.	In.
Morant Point L. H.	St. Thomas	7.12	6.78
Quaw Hill		12.65	...
Hordley	...	9.10	8.57
Elmwood (Long Bay)	Portland	13.52	...
Boston	...	20.20	...
Port Antonio	...	21.13	...

North-Eastern Division, *contd.*		December.	
		1888.	Average.
		In.	In.
Cinchona Plantation,	St. Andrew	13.56	13.83
New Haven Gap	...	...	..
Newton	...	4.41	...
Stony Hill Reformatory	...	4.30	3.71
Castleton Gardens	St. Mary	21.88	13.17
Dover	...	38.55	...
Quebec	...	...	...
Richmond	...	16.13	...
Port Maria	...	13.16	...
New Ramble	...	...	10.58
Gayle	...	30.59	...
Goshen	...	...	...
Rio Hoe	St. Ann	...	11.49
Unity Valley	...	14.03	10.74
Moneague	...	18.69	...
Albion	...	...	8.07
Averham Park	...	29.21	...
Bradfield	...	17.94	10.91
Drax Hall	...	17 51	8.57
Seville	...	...	8.10
Llandovery	...	...	8.47
Richmond Estate	...	22.08	7.14
Southfield	...	34.64	...
	Means	14.17	9.27

Northern Division.		December.	
		1888.	Average.
		In.	In.
Lillyfield	St. Ann	...	13.61
Home Castle	...	23.79	...
Richmond Pen	...	9.82	...
Colchis Pen	Trelawny	*14.50*	...
Mahogany Hall	...	18.72	3.76
Braco	...	15.22	7.20
Arcadia	...	23.14	...
Harmony Hall	...	14.02	7.24
Lancaster	...	16.64	7.57
Vale Royal	...	23.25	9.29
Hyde	...	12.54	8.08
Georgia	...	...	8.41
Steelfield	...	17.25	7.99
Oxford	...	22.80	..
Cambridge	...	21.43	6.01
Dry Valley	...	17.62	...
Lottery	...	22.34	5.83
Falmouth	...	8.75	...
Holland Pen	...	13.31	...
Golden Grove	...	11.55	5.83
Pembroke	...	...	5.26
Green Park	...	...	5.87
Phœnix	...	12.88	...
Tilston	...	9.18	5.67
Orange Valley	...	12.00	6.99
Kent	...	11.62	4.57
Dundee	...	14.67	6.46
Weston Favel	...	12.15	...
Gale's Valley	...	11.80	5.60
Greenwood	St. James	11.82	...
Bellfield	...	12.12	...
Guilsbro'	...	13.32	...
Spring Vale	...	...	6.67
Cinnamon Hall	...	...	...
Rose Hall	...	..	...
Running Gut	...	...	5.71
Leogan	...	...	...
Ironshore	...	11.92	3.18
Providence	St. James	10.83	...
Montego Bay (Market)	...	11.17	...
Catherine Hall	St. James	14.80	3.32
Catherine Mount	...	11.94	6.74
Fairfield	...	11.27	...
	Means	15.05	6.16

West Central Division.		December.	
		1888.	Average.
		In.	In.
Linstead	St. Catherine	4.65	2.44
Cave Valley	St. Ann	6.17	2.75
Mandeville	Manchester	...	...
Derry	...	...	...
Barton Isles	St. Elizabeth	...	...
Appleton	...	3.92	3.34
Windsor Pen*	Trelawny	10.88	...
Maroon Town	St. James	7.52	...
Kepp	St. Elizabeth	4.37	2.98
Mount *Edgecombe*	Westmoreland	1.42	3.23
Windsor Forest	...	4.83	...
Woodstock	...	3.62	...
Struie	...	5.25	...
Kew Park	...	...	...
Hermitage	...	...	...
Chester Castle	Hanover	3.71	...
Copse	...	3.80	4.67
Haughton Grove	...	...	...
Kempshot	St. James	...	...
Anchovy	...	7.28	2.48
Wiltshire	...	10.11	2.81
Eden	...	9.86	...
Round Hill	Hanover	6.10	1.96
Cacoon Castle	...	13.18	6.76
Golden Grove	...	7.24	2.93
Great Valley Pen	...	16.05	...
Flint River	...	10.46	...
Fryall	...	8.66	2.08
Sweet River	Westmoreland	...	...
Mackfield	...	...	...
Windsor (Sav.-la-Mar)	...	2.33	2.27
Kew	Hanover	7.90	...
Fontabelle	Westmoreland	..	...
Belle Isle	...	2.05	...
King's Valley	...	...	...
Haughton Court	Hanover	...	...
Orange Cove	...	8.10	4.06
Abingdon	...	5.71	...
	Means	6.24	3.20

Southern Division.		December.	
		1888.	Average.
		In.	In.
Albion Hospital	St. Thomas	1.17	...
The Abbey	...	6.50	...
Halberstadt	St. Andrew	...	...
Middleton	...	...	...
Woodford	...	5.27	...
Hope Plantation	...	2.42	...
Hope Reservoirs	...	...	...
Cherry Garden	...	3.22	...
Constant Spring	...	...	...
Shortwood	...	...	...
King's House	...	1.92	0.37
Monaltrie	...	3.03	2.37
Public Works Office	Kingston	1.24	2.33

*The rainfall for October, 1888, was erroneously returned as 4.24 inches, it should have been 1.99 inches.

Southern Division, *contd.*		December. 1888.	Average.
		In.	In.
Franklyn Town	Kingston	...	...
Elletson Road	...	1.11	...
Plumb Point L. H.	...	1.57	1.57
Spanish Town	St. Catherine	4.85	1.66
Windsor Park	...	...	...
Hog Hole Pen	...	2.57	2.00
Headworks, R. C. C.	...	2.85	1.76
Old Harbour	...	4.85	...
Springfield	Clarendon	...	...
Farm Plantation	Manchester	2.36	2.46
Stone's Hope	...	2.32	...
Brokenhurst Pen	...	...	...
Pepper	St. Elizabeth	...	1.90
Long Hill	...	1.65	3.40
Potsdam	...	3.05	...
Gilnock Hall	...	...	...
Santa Cruz (Poor House)	...	2.78	...
Black River	...	1.41	2.29
Bloomsbury	...	...	...
	Means	2.34	2.02

At the Plumb Point Light House the upper gauge is 68 feet above the lower; these gauges registered respectively 1.22 and 1.57 inches.

Comparative Table.

(*Based upon the "Average" Stations only.*)

	December. 1888.	Average.
	In.	In.
North Eastern Division	14.17	9.27
Northern "	15.05	6.16
West Central "	6.24	3.20
Southern "	2.34	2.02
The Island	9.45	5.16

The largest fall, namely, 34.64 inches, was recorded at Southfield in St. Ann; the smallest, 1.11 inches, was recorded at Elletson Road, Kingston.

The rainfall for December was therefore nearly twice the average, very heavy "winter rains" being experienced on the Northside.

In Kingston we had "Northers" on the dates mentioned below, opposite to which are placed the notes in respect of them inserted in the *Daily Weather Reports.*

5th Dec.—Strong Norther at night, commencing between 6 and 7 p.m.
6th " Norther again blowing at night after nearly dying away during the day.
11th " Norther commenced about 9 a.m., and blowing all day and at night.
12th " Norther died away in morning.
20th " Norther commenced about 7 p.m.
21st " Norther blowing, which died away at night.

In each case these occurred after the passing away of small barometric depressions.

Mr. John A. Watson-Taylor writes from Quaw Hill as follows:—"On Monday the 24th December the Plantain Garden River 'came down,' and produced a flood which, while it lasted, was almost as severe as that of May. Fences were broken by the accumulation of cane trash, and carts and wains had to be chained to trees to prevent their being carried away. During this time the local rainfall was almost nil."

With reference to the meteor noticed in the Weather Report for November, I have been informed by Mr. A. W. Douèt that it was seen and the explosion was heard in the Parish of St. Ann.

The following Table gives the Island Rainfall actully recorded in 1888, as compared with the average Annual Rainfall:—

Island Rainfall.

	Rainfall recorded.	*Average Rainfall.*
	In.	In.
1888—January	1.02	4.32
February	1.89	2.60
March	1.74	3.24
April	4.11	3.76
May	20.18	8.64
June	6.24	5.53
July	2.46	4.50
August	4.60	6.84
September	7.68	7.02
October	4.01	8.95
November	4.31	6.00
December	9.45	5.16
The Year	67.59	66.56

The rainfall for the year therefore, was just about the average but in only April, June and September could this be said of the monthly fall, the deficiencies and excesses in the other months counterbalancing one another.

The following Table will be of interest in connection with the present subject; it was formed by taking the mean of the results for each Division of the Island as published in Weather Reports Nos 31, 20, 17, 58, 71 and 82, and the detailed statement of the Island rainfall for 1887 not yet published; the figures for 1888 are of course only approximate:

ISLAND RAINFALL FROM 1870 TO 1888.

Year.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
1870	3.99	4.34	3.10	2 79	17.38	3 58	4.32	5.72	8.05	16.74	12 50	6.90	89 41
1871	2.40	1.60	2.29	3.46	6.43	1.98	3.79	3.46	5.70	8.88	5.88	4.22	50.09
1872	3.00	2.84	3.06	2.06	5.18	2.42	2.89	5.24	4.55	6.09	3.13	4.73	45 19
1873	8.15	1.94	5.47	1 15	5.06	2 58	2.56	7.51	10.73	8.57	3.53	5.81	63.09
1874	3.44	2.30	0.61	4.40	10.64	3.96	2 51	9.65	6.82	11.69	10.52	2.49	68.93
1875	2.57	0.66	2.59	3.05	8.54	3.74	3.87	5.13	7.60	5.58	2.34	6.74	52 41
1876	6.00	0.96	1.63	4.68	8.24	5.40	8.15	5.06	5.19	11 36	8 96	5 72	71.35
1877	5.94	1.18	5.38	2.91	15.03	6.50	4.68	1.76	5.01	4.50	7.63	7.88	68.40
1878	6.35	2.80	2.78	0.70	4.86	6.63	5.85	10.80	7.43	11.29	7.32	9.61	76.42
1879	2.81	5.30	6.49	7.28	9 14	10.64	4.47	12 32	7.38	15.96	5.29	1.76	88.84
Means.	4.46	2.38	3.34	3 25	9.05	4.74	4.31	6.66	6.85	10.07	6 71	5.59	67.41
1880	4 36	0.96	1.10	2.77	11.60	3.09	3.86	9 58	3.97	4.00	2.21	7.94	55.44
1881	1.22	4.01	1.30	4.63	10.28	5.56	4.77	6.21	7.68	12.08	7.52	3.34	68 60
1882	2.92	1.93	3.54	3.32	8.22	2.33	3.76	4.80	8 78	8 96	5.36	3.95	57.87
1883	5.49	3.50	4.08	3.34	5.29	4.98	3.15	5.42	7.82	8 15	5.12	2.92	59.26
1884	4.72	3.44	2.51	1.85	6.72	6.89	2.52	5.06	6.23	9.52	5.00	2.44	56.90
1885	1.73	1.49	1.47	4.73	4.90	3.32	3 01	6.19	6.22	6.37	4.74	15.69	59.86
1886	5.23	4.65	2.68	6 39	5.30	24 46	6.22	13.54	5.90	7 98	3.70	5.66	91.71
1887	6.02	2.32	2.38	4.48	9.32	8.84	7.19	6 91	5.80	8 52	8.17	0.75	70.72
1888	1.02	1.89	1.74	4.11	20.18	6.24	2.46	4.50	7.68	4.01	4.31	9.45	67.59

KINGSTON, JAMAICA—MEAN RESULTS FOR THE YEAR 1888.—ELEVATION 60 FEET.

Month.	Means for the Month.												
	Pressure.		Temperature.					Dewpoint.		Vapour.		Humidity.	
	7 a.m.	3 p.m.	7 a.m.	3 p.m.	Max.	Min.	Range.	7 a.m.	3 p.m.	7 a.m.	3. p.m.	7 a.m.	3 p.m.
	In.	In.	°	°	°	°	°	°	°	In.	In.		
January ...	30.101	30.037	66.8	83.8	88.3	64.2	24.1	62.0	69.5	0.556	0.721	83	64
February ...	30.070	30.008	69.1	82.9	86.1	64.6	21.5	62.8	69.5	0.572	0.721	81	65
March ...	30.068	30.000	72.7	83.6	86.7	66.5	20.2	64.0	70.8	0.596	0.754	75	66
April ...	30.051	29.989	77.4	85.2	88.4	68.4	20.0	65.9	71.3	0.637	0.766	68	64
May ...	29.973	29.928	76.7	82.6	86.1	71.8	14.3	69.7	74.0	0.726	0.840	80	76
June ...	29.995	29.952	80.0	86.2	89.0	73.2	15.8	71.8	74.6	0.779	0.857	77	69
July ...	30.021	29.971	79.8	88.3	90.9	74.2	16.7	72.6	76.0	0.801	0.897	79	68
August ...	29.991	29.936	78.1	87.1	90.4	73.3	17.1	71.9	73.3	0.782	0.820	81	72
September ...	29.942	29.884	78.0	85.3	90.1	73.2	16.9	72.9	75.7	0.810	0.888	84	73
October ...	29.962	29.901	77.6	86.2	90.8	71.6	19.2	72.5	74.3	0.799	0.848	85	68
November ...	29.961	29.896	74.7	85.8	91.3	70.2	21.1	69.4	72.1	0.718	0.788	84	64
December ...	30.007	29.950	72.6	84.6	89.3	70.1	19.2	68.0	71.4	0.684	0.769	86	66
Means.	30.012	29.954	75.3	85 1	88.9	70.1	18.8	68.6	72.7	0.705	0.806	80	68

The barometric presure is the reading of the barometer corrected for instrumental error and reduced to 32° and sea levels.

	Means for the month.				Extremes for the month.					Total Rainfall.	Remarks.
	Cloud Percentage.		Wind.		Temperature.						
	7 a.m.	3 p.m.	From.	Miles Daily.	Max.	Date.	Min.	Date.	Range.		
					°		°		°	In.	
January ...	12	42	Var.	40.7	91.0	14	59.6	5	31.4	0.09	Fine.
February ...	22	40	S.E.	55.7	88.0	27	60.6	25	27 4	0.69	Fine.
March ...	33	51	S.E.	65 2	89.8	10	61 1	6	28.7	0.28	Fine.
April ...	26	56	S.E.	46.7	93.0	5	62.6	7*	30.4	0.86	Fair.
May ...	78	84	S.E.	72.0	92.2	6	68.7	21	23 5	32.13	Flood rains.
June ...	53	78	S.E.	82.7	93 6	28	70 1	16	23 5	2.76	Fair.
July ...	44	67	S.E.	71.1	94.6	28	70 8	24	23 8	1.88	Fine.
August ...	63	83	S.E.	58.4	92 9	22	68.8	28	24 1	2.44	Fair.
September ...	70	79	S.E.	46.0	93.3	16	70.6	5	22.7	6.67	Disturbed with showers.
October ...	59	71	Var.	48.6	94 4	21	64 7	26	29 7	1.83	Fair, with showers.
November ...	35	56	Var.	41.3	94 3	13†	63 7	27	30 6	0.07	Fine. Norther on 25th.
December ...	49	59	Var.	49.9	93 5	3	66 1	15	27 4	1.11	Fair. Northers on 6th 11th and 21st.
Total. Means.	45	64	S.E.	56.5	92.5		65.6		26.9	37.58	

* And on 23rd and 25th.
† And 14th.

ROBT. JOHNSTONE,
4th February, 1889.